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August 1958 No 116 Price 3s

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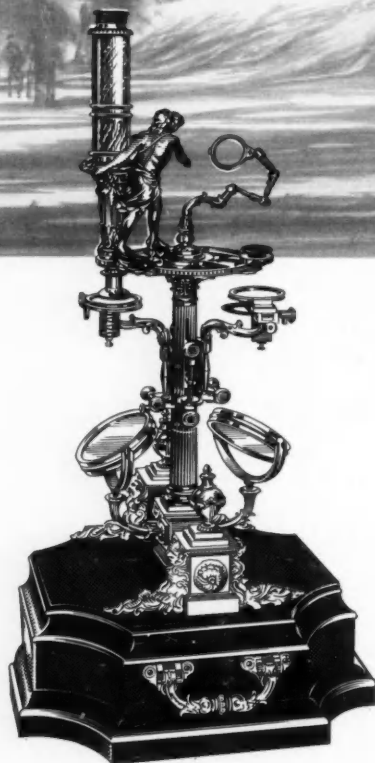
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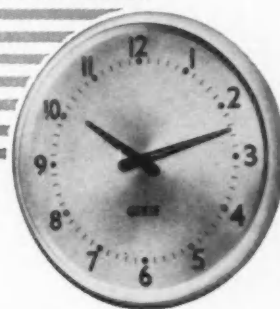
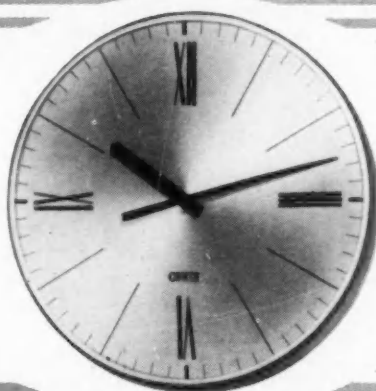
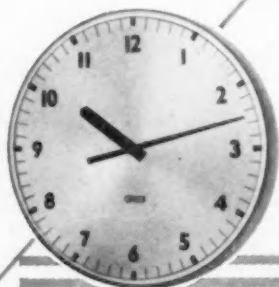
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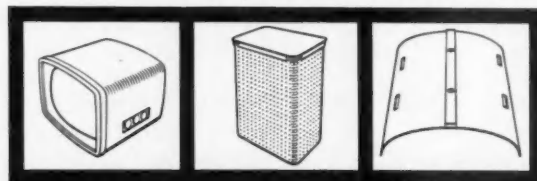
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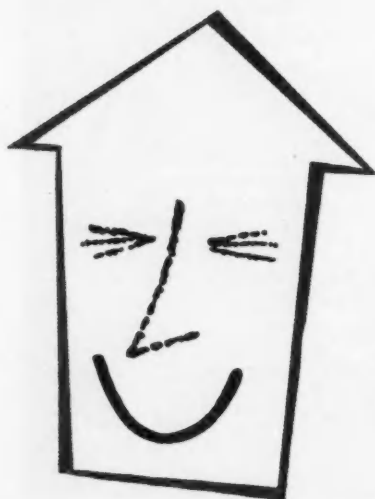
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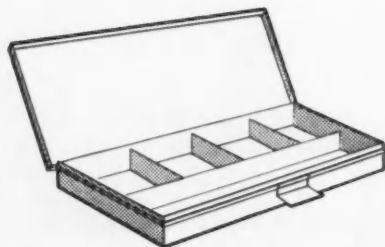
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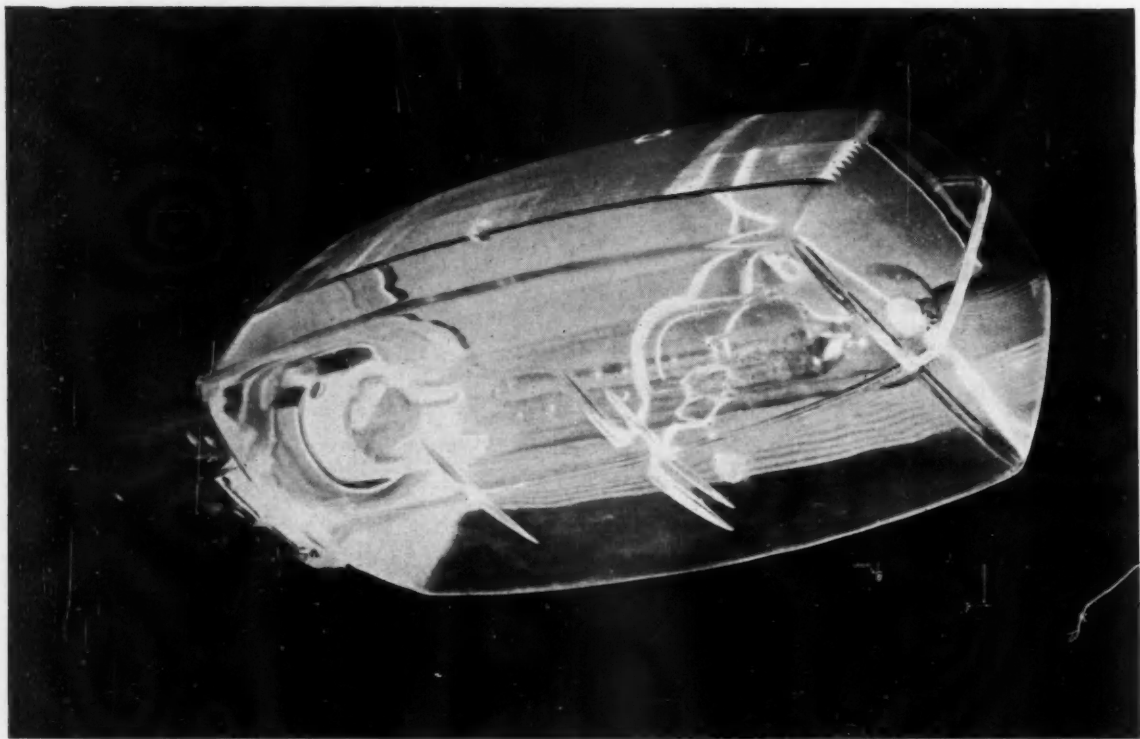


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This is the second of three articles which show some of the more interesting aspects of the Brussels International Exhibition. New products displayed by 11 countries are illustrated

Design protection in the proposed European Free Trade Area

Manufacturers and designers of products for sale in the European markets may need to be protected against plagiarism. The article gives details of the protection to be obtained in each country

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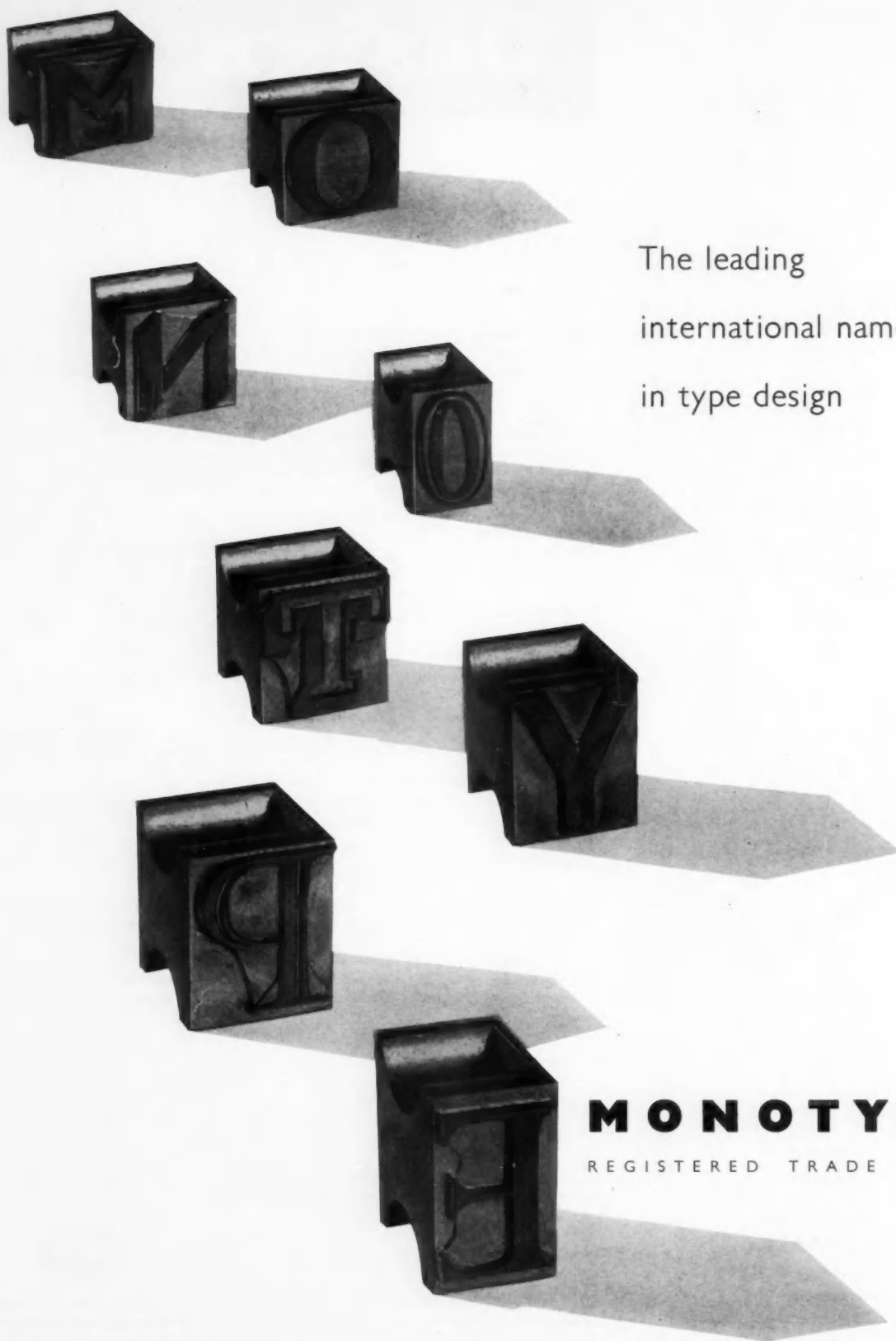
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The not so hot tin box

A FACT WHICH HAS EMERGED during the American recession is the success with which the British small car manufacturer is riding out a storm which has caused so much consternation in Detroit. The American industry has developed a policy of designing for early obsolescence, rather than greater convenience for the customer. Consequently when President Eisenhower, in the early months of the recession, said: "Manufacturers should wake up and give the public the things it wants, rather than what the manufacturers think the public wants", Detroit assumed he was pointing a finger at them.

When The Economist Intelligence Unit recently published its *Annual Review of British Industry**, which aims to give the American and Canadian markets a better idea of our industrial and economic achievements, the Foreign Secretary, at a ceremony at the House of Commons, presented to the American Ambassador a personal copy for transmission to President Eisenhower. Launched at such a lofty level this volume, loaded with facts favourable to British products, can hardly escape the President's notice, and in particular its references to our motor industry: "Detailed design of these cars is different in many respects from their American counterparts . . . By careful design to make the maximum use of the available space, British engineers have been able to make their vehicles small and light without sacrificing strength or comfort . . . low capacity and high power output enable the average 12-1500 cc British saloon to obtain speeds of up to 75 mph with a fuel consumption of about half that of the American car. These . . . are just the thing for the housewife, shopping, taking the children to school and for visiting friends. But the same car is also capable of carrying four people and luggage over long distances."

Perhaps it was this approach to design, fundamentally different from the usual American one, which the President was recommending to Detroit. In the long run our point of view - which is now trying to see the design problem clearly and to see it whole, rather than as a matter of styling and final trim - may pay better dividends in the export market. Admittedly the motor industry has often been seduced by the American view; so have the radio and television makers and other industries besides. But there are welcome signs that the analytical, commonsense approach, which makes design an important part of the production plan from start to finish, will prevail and prove commercially sound. In cars this approach will become more and more necessary as the motorist, harassed by every conceivable irritation, degenerates into the "man in the hot tin box", as Professor Richards has so acutely described him.

J.N.W.

* Allan Wingate, 429.

Gatwick Airport

a passenger's impressions on arrival at the new terminal building

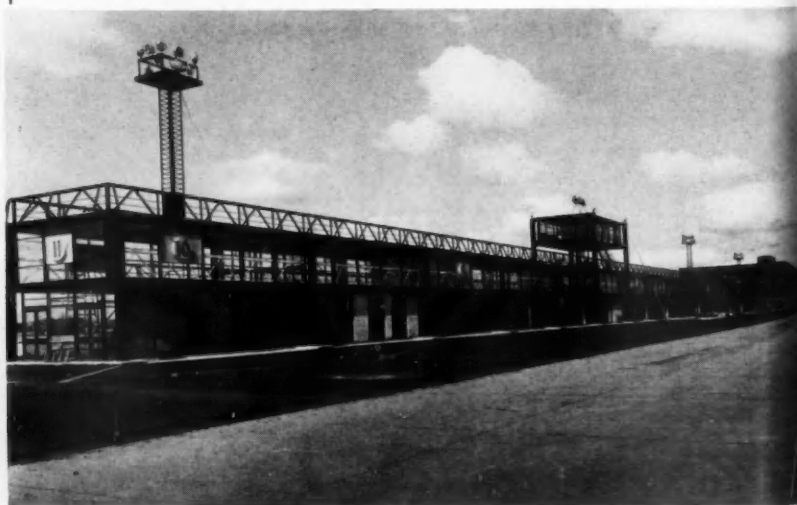


The 900-ft long finger, 1, is a stark metal and glass structure. No colour has been applied to the metalwork apart from black and white. The terminal control room and floodlight towers emphasise the functional appearance – nothing has been added for effect: it looks what it is.

Aircraft come close to the finger, 2, allowing passengers to walk straight into the building, avoiding the bus ride often necessary at London Airport.

Passengers enter by doors, 3, leading directly to the walkways above. Although the clarity of the design is apparent, these lobbies are awkward. The necessity of holding the door open against the spring, and the step up into the lobby, are tiresome.

The vigour of the bare metal, 4, is well used throughout the finger. Forceful effect is created by the contrast between the black metalwork and glass. A total absence of domestic scale detailing and finishes is completely in character with the purpose of the building.



This is a major achievement. Gatwick Airport looks like an airport and feels like an airport – where the passenger is accepted as the reason for the building's existence and has been taken as the starting point throughout. It is an example of what clear thinking can do.

Gatwick is London's second major airport.

Built at a cost of over £7 million it is the first airport to combine road, rail and air services into one compact unit. Initially it is handling scheduled BEA Channel Island flights with some independent air transport companies as well. Later it is expected that it will handle cross-channel flights. It is capable of accepting the largest aircraft though this is unlikely unless they are diverted from London Airport.

The basic design of the terminal buildings incorporates a number of interesting features of which two are of particular note. First, a new system of customs greatly increases the convenience of the passenger. The heavy baggage of outward bound passengers is collected on their arrival while they themselves do not come under customs control until they are about to board the aircraft. Second, there is the pier or 'finger' which juts out from the terminal

building. Aircraft come close to the finger and passengers walk the short distance over the apron.

It was appreciated at the outset that good signposting is essential if an easy flow is to be obtained. This does not involve a large number of signs – rather the reverse – as few signs as possible. Jock Kinneir was called in on the early planning stage, and the result of this close co-operation is apparent throughout.

The prime function of the terminal building must be to allow passengers to arrive and depart with minimum inconvenience. Compared with this everything else is unimportant. The architects have worked admirably to this end and there is a very high degree of co-ordination and general absence of fussiness in the design. The building has no tricks, no murals, no bollards, nor amusing colours. The general effect is immensely cool and uncomplicated. There are very few paint colours, nearly all colours coming from natural materials. It is the feeling of humanness and the simplicity of doing a job without effort which are so refreshing.

The photographs, taken during a normal day's operation, follow a passenger from arrival by air until he leaves to catch his train to London.

STEPHEN GARRETT

Photographs by John Garner

The aerial view, LEFT, shows the new terminal building in the centre – with one finger (two more may be added later) projecting on to the apron. Aircraft take off and land on the distant runway. The railway station in the foreground has direct entry into the

terminal building, with the main London-Brighton road running parallel with the railway. Fly-over carriageways provide access at concourse level into the terminal building. The old Gatwick racecourse is on the extreme right.



Gatwick airport

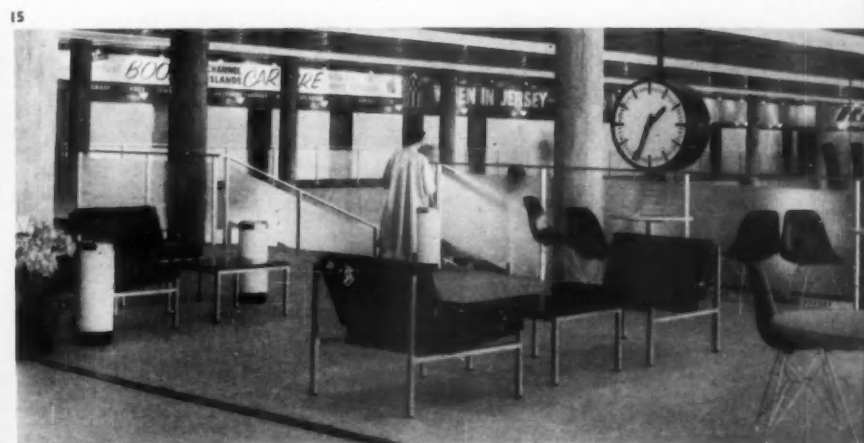
The stairs lead to the first floor level of the finger, 5, where the walk to the main building begins. The structural beam acts as handrail, 6, but this is too close to the glazing which prevents proper painting and will collect dirt. Nothing has been done to try to lessen the apparent length of the passageways. It would have been an obvious trick to have carried some visual treatment across, on the floor or ceiling, aiming to break this. In fact the ceilings have been left in natural acoustic board, untreated, with the floor in grey linoleum. On balance this restrained, uncluttered treatment is far more restful. Also the near absence of solid



walls relieves any feeling of enclosure.

Passengers subject to customs inspection are separated from those that are not by a glazed screen running down the centre of the finger walkway. Non-customs passengers wait, 7, for their baggage to come from the aircraft. Here the main characteristics of the building are clear. The clean, masculine detailing of the glazed screen and the furniture, in this case by Hille, accurately reflects the architecture and is in scale with the building; the sign-posting in Kinneir's lettering is clear and above all there are no superfluous fittings and decoration. The passenger passes through the corridor, 9, and claims his baggage in the main concourse. The side wall is faced in eight-inch \times four-inch white tiles with a slightly textured surface. Whenever one word will be understood in both English and French this has been used, 8. Symbols have been completely omitted except for aircraft and cloakrooms. Special consideration was given to lighting throughout. In the corridor fittings have been chosen to express the area they serve – in this case emphasising the direction in which the passenger must pass. A neat connection between fluorescent tubes has been designed. The passenger liable to customs goes separately, 10, passing through the customs waiting room and up the stairs, 11, lined with polished wood. The handrail, the same as used on the finger staircases, is black painted square section metal. Leaving the customs hall, 12, the passenger enters the main concourse, 13. This shows how fluorescent troughs have been used for the lower traffic areas in contrast to the small sparkling fittings used for the rest areas above. In the foreground are enquiry offices with Hille benches and special Best & Lloyd ash trays.





Leading from the concourse, and open to passengers and public, a wide staircase, 14, leads to the higher level. The handrail is formed in rectangular section aluminium, with infilling panels of the same obscured glass as used elsewhere. On the higher level, 15, the treatment is richer in contrast to the traffic areas below. In addition to the Hille furniture already used in the lower areas, there are Eames chairs and circular white terrazzo topped tables. The atmosphere is cool and relaxed.

Gatwick airport

The rest area, 16, is served by a snack bar. The low tables, also by Hille, have black plastics tops. Great richness, 17, is gained by the contrast between the untreated concrete and the smooth finishes around. The marks of the wooden shuttering, textured with saw cuts and nails, are clearly visible. To the side of some columns copper rainwater pipes run straight from roof to basement. The side wall, 18, of the cocktail lounge leading from the previous area to the restaurant is faced in pink-red Verona marble mosaic, set in a similar coloured pointing. The sparkle of lights on this surface has a lustrous effect. To one side is the bar.

Looking down, 19, from the top of the main staircase, the concourse lies below. The floor, and the staircase treads and

risers are finished in Genoa green terrazzo slabs. The clock is as big and as bare as one could wish – as a piece of machinery-for-telling-the-time it could hardly be bettered. To the left is the group of shops. These are aluminium framed, anodised black, simple, stark and completely adequate. But the top of this block is easily seen – and the muddle of wires and traps gives the same appearance as when one looks down on exhibition stands; an untidy sight in the immaculate concourse. As elsewhere in this building good maintenance is going to be essential if it is to retain its freshness – the benches must be kept neatly in line.

The high level band of advertisements in the concourse sets off the strongly controlled features elsewhere.

16



17



18



20



The reception desks, 20, where a passenger checks-in on arrival, stand to one side of the concourse. As with other fittings in the building these desks have been designed by the architects. To the rear of the desks are ticket offices for the various airlines. The main glazed wall of the concourse rises behind, with special white-green glass light fittings using brass trim and black flex reflected against it.

21



e clock
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The Ministry of Transport and Civil Aviation appointed Frederick S. Snow and Partners as consulting engineers for the airport development. Yorke, Rosenberg and Mardall were the architects for the terminal and ancillary buildings. Associate in charge, RANDALL EVANS. Architect in charge of whole project, DAVID ALLFORD. Architect, terminal building, BRIAN HENDERSON.

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Clock designed by the architects and J. Kinneir, made by Synchronome Ltd
Public furniture designed by Robin Day, made by Hille of London Ltd
Glass fibre chairs designed by Charles Eames, made by Hille of London Ltd (under licence)

22



23



24



The railway information room, 21, shows again the extreme simplicity which has been achieved by the architects. The Post Office, 22, faces the concourse. The extreme clarity of Kinneir lettering shows up. The very fact that there is no whimsy in the building allows the robust standard pillar box, painted bright red, to stand up with tremendous character. The passenger leaving Gatwick by train, 23, can pass

straight from the concourse to the newly constructed railway station, 24. The station is poor in comparison with the terminal building. British Railways' lettering, and the weak adaption of the Kinneir lettering, make for a muddle of signs. But by a stroke of imagination British Railways makes one momentarily forget its faults: through the loud speakers come station announcements in English and French.

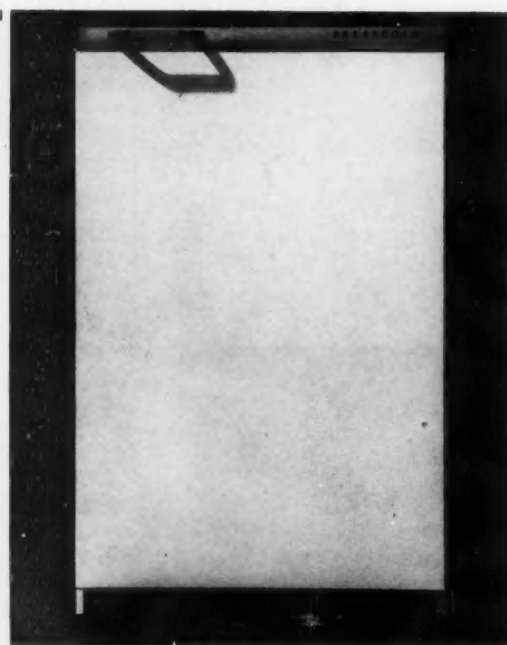
DESIGN ANALYSIS 9

Domestic refrigerator

MAKER *The Pressed Steel Co Ltd.* CONSULTANT DESIGNERS *Wilkes and Ashmore.*
£59 17s including purchase tax.

L. BRUCE ARCHER
and
J. BERESFORD-EVANS

The product discussed in the ninth article of this series reveals a marked departure from the practice which has been generally adopted in British refrigerator design since the war. The authors show how the skill of the design rests largely on the fact that it has grown naturally out of the users' requirements, and is not merely a style which has been imposed to impress the customer at the point-of-sale. It is also the first British refrigerator available in both wall-mounting and floor-standing versions.



1 and 2 The simple rectangular lines can be seen in these general views of the refrigerator which is finished in white or cream. 1 shows the subtle change of plane on the front of the satin finished metal strip containing the handle and trade name. In 2 the white feet beneath the black finished toe space can be seen. This, and the fact that the lower hinge is visible, are minor imperfections in a design that must be criticized by unusually high standards.

3 The interior arrangements have been approached with less imagination than the exterior. The door to the cooling unit is conventionally enriched and therefore contributes less than it could to the satisfaction given by the design as a whole. The setting dial is below the cooling unit.

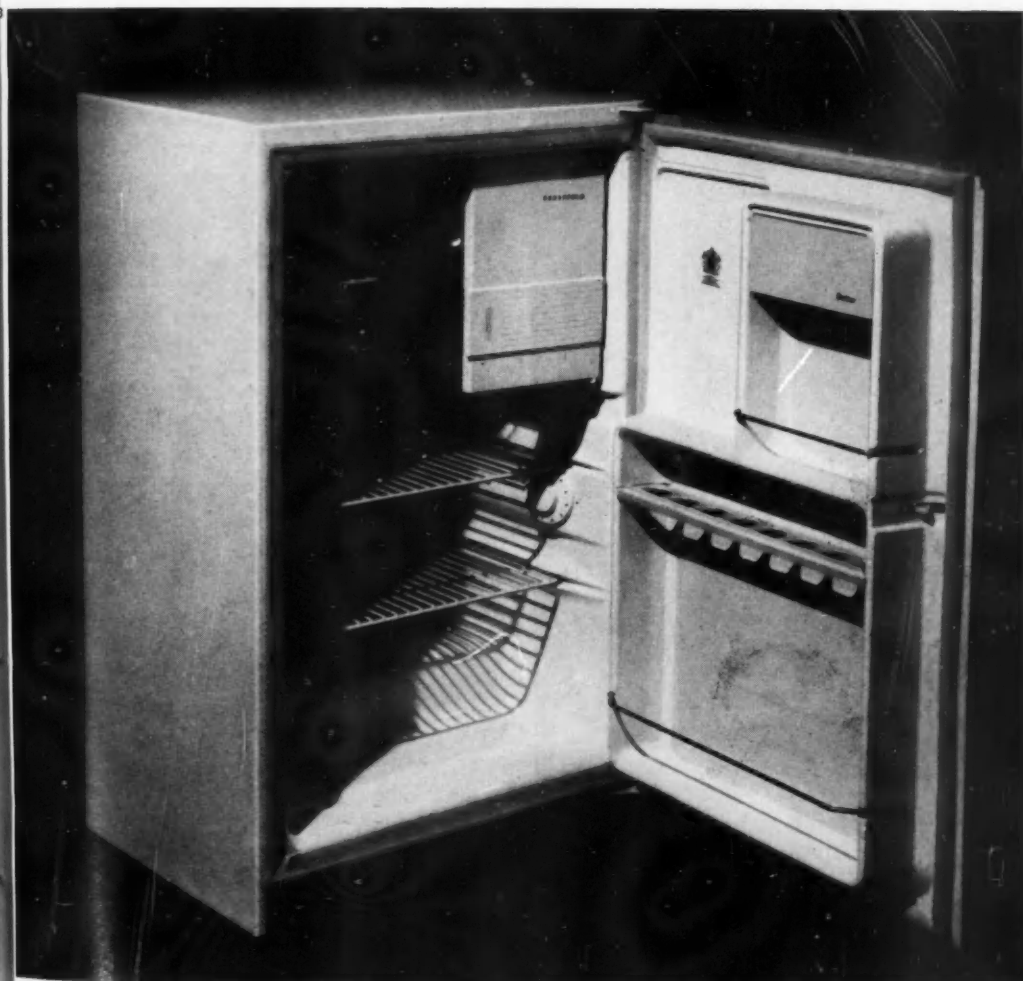


THE PERIOD OF STERILITY with which the field of domestic refrigerator design was plagued two or three years ago seems to have given way to a healthier condition of change, rebirth and experiment. Some current models incorporate new ideas in form and construction, and a better appreciation of the role which the refrigerator plays in the kitchen. Until recently most of the smaller models for the mass market were scaled down versions of the conventional American wardrobe style. These designs were dominated by heavily rounded corners, thick doors, massive handles and curved tops and fronts. The gradual introduction of small, essentially British table top refrigerators has resulted largely from a greater consideration of their function within the kitchen. The latest and most interesting development in this direction is the Prestcold Packaway.

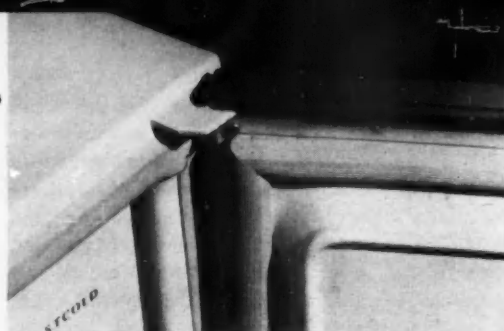
The project was initiated by a decision of the management of the Pressed Steel Co Ltd to increase substantially its output of domestic refrigerators. The firm

already enjoyed an established position at the luxury end of the market and also produced a considerable number of 4 cu ft models for the mass market. It was not known, however, which sector of the market offered the greatest chances of expansion. A survey conducted by Urwick Orr and Partners Ltd, joined by Mather and Crowther Ltd, indicated that 60 per cent of the demand on the domestic market was for a refrigerator of 3 cu ft or less, and that the major selling points would be small external dimensions and the ability to be fitted flush with other kitchen units. It was also evident that in order to avoid encroaching on the market for Prestcold's own 4 cu ft model, the price would have to be substantially less than 65 gns, the price of the *Big Four*.

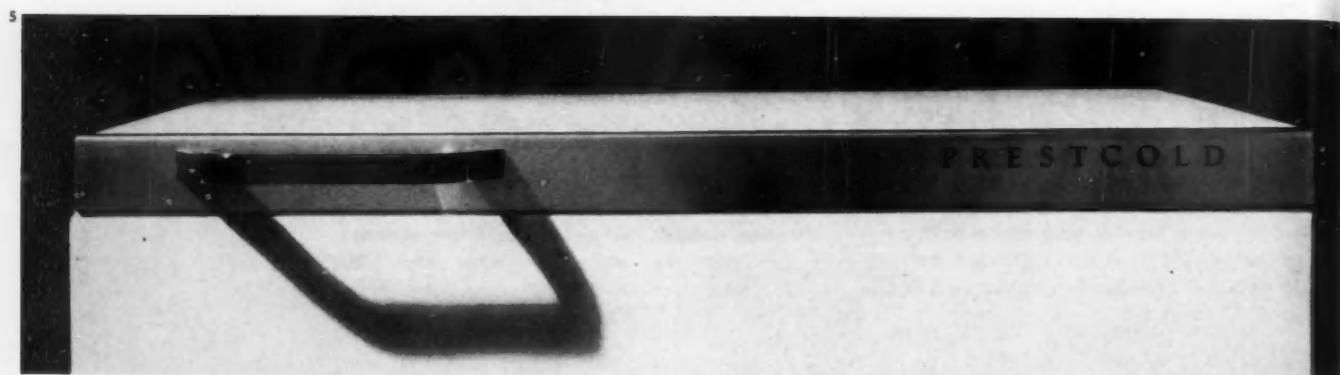
Although some manufacturers were supporting their 4 cu ft models with others at about 2½ cu ft, Prestcold decided to aim for the full 3 cu ft model with external dimensions and price reduced to the absolute minimum. In the event, the refrigerator design team under C. W. Longman, design engineer, succeeded in putting



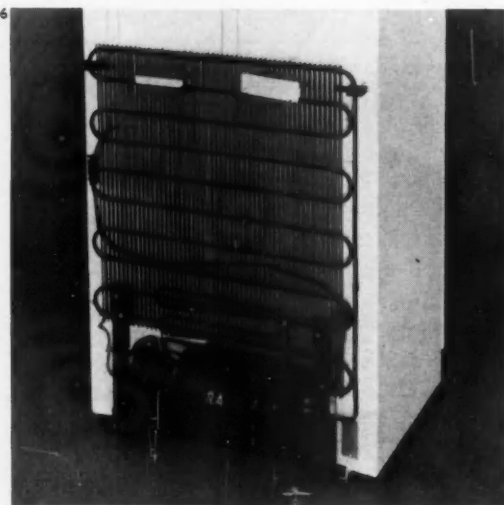
Design analysis



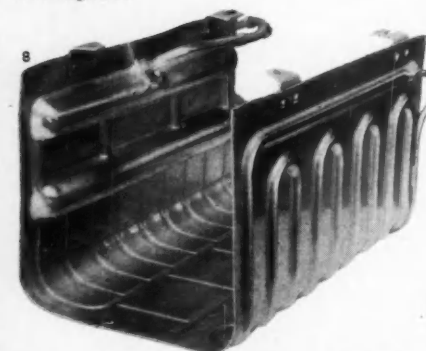
4 This detail of the hinge shows how the door opens within the width of the cabinet allowing the refrigerator to butt up against a wall or join with other storage units. The gap between the door and the cabinet has been reduced at the top by extending the door trim.



5 The engraved and filled trade name is unusually restrained and dignified.



6 This rear view shows the position of the compressor motor which partially projects under a ledge in the lower compartment of the refrigerator.



8 The freezing unit is space saving and easy to clean.

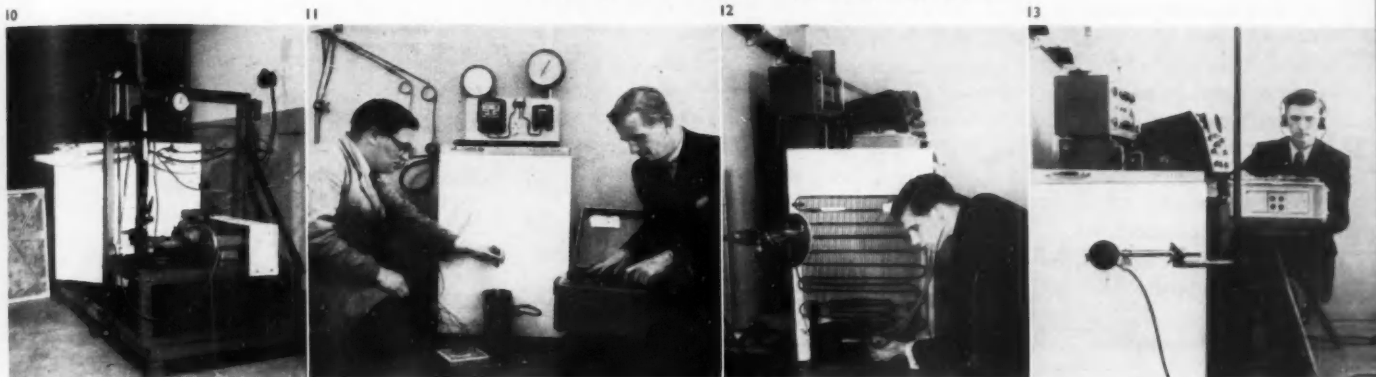
7 The refrigerator is shown placed alongside standard *Leisure* kitchen units and also suspended on the wall.

Laboratory tests

10 The very thin door is nevertheless unusually rigid. Prolonged tests have been made on this door slamming test-rig.

11 The refrigeration system is technically very sound. A proportion of the output of finished refrigerators is taken off the production line and tested in a hot-room under closely controlled conditions.

12 and 13 The Prestcold development laboratories include an acoustically insulated room equipped with vibration measurement apparatus with which the firm has attempted to develop a near silent compressor system. Laboratory photographs by John Garner.



the *Packaway* on the market at 57 gns, which is about the same price as, for example, the Frigidaire model of the same internal capacity, and only slightly dearer than the Electrolux of 2½ cu ft capacity.

The external dimensions of the *Packaway* proved to be substantially smaller than any competing designs, and is in fact smaller than some with only three-quarters the capacity. The dimensions have been intelligently considered in relation to the British Standard sizes recommended for kitchen units, and in this way provide benefits which a slavish adherence to the standards would not have allowed. The height, for example, is only 33½ inches, which is 2½ inches lower than the BS height for kitchen worktops, and this enables the refrigerator to be stowed beneath draining boards and worktops in the spaces which are often provided in new houses and flats for washing machines and boilers. This height also coincides with the recommendations of the Swedish National Institute for Consumer Information for the height of kitchen working surfaces, and is regarded as standard in some Continental countries; a point which will give Prestcold a useful foot in the door to the proposed European Free Trade Area. The width, at 21 inches, is smaller than most refrigerators and coincides with the BS module for kitchens. The overall depth of 18 inches, including 1½ inches for the door thickness, is substantially less than any other British refrigerator and allows the door to be lined up with kitchen cabinets instead of projecting several inches in front as is the case with most other models. The design also allows for an extra fitting enabling the refrigerator to be wall-mounted if required.

It is, however, in the general external appearance that the greatest contrast with previous British designs is to

be seen. In form it is simple and rectangular almost to starkness, and in this respect follows recent practice by several kitchen equipment manufacturers in the USA (DESIGN August 1957 pages 43-51). The door dominates the shape, as in all refrigerators, but this domination is achieved by a flat and unbroken surface extending over almost the whole of the front. The full development of this theme is so logical, so simply carried out, and so practical that we have had to wait surprisingly long for it. The door width allows only a ¼ inch clearance at the sides, but it is hinged on an enclosed pin at the top and an external pin at the bottom, so placed that it swings open within the width of the cabinet. This means, of course, that if it is set hard up against a wall or another cabinet, the door can be opened fully without binding or encroaching on its neighbour.

The door finishes 3 inches from the floor, so there is a reasonable toe space. Its absolute plainness is broken only by a satin finished metal strip across the top edge, that carries the name and the handle. This strip has a most interesting refinement in that the upper two thirds of its height is inclined at a few degrees from the vertical, to make the slightest indication of a horizontal division. In this upper part is mounted a solid handle, of bar form with solidly spreading base parts. The handle is finished in bright polish which makes a pleasing contrast, but shows finger marks more readily than the satin finish. The Prestcold name is in incised Roman lettering, somewhat large and widely letter spaced for such characters, but their comparative clarity and dignity override any adverse criticism.

The door is unusually thin, but extraordinarily rigid, and is made from steel sheet, rust proofed, enamelled and insulated with resin bonded glass fibre mats. The door latch is a self-releasing spring loaded

Design analysis

cam made from nylon and is separate from the handle, which can be mounted on the lower edge of the door when the refrigerator is wall hung. On the model tested the latch was stiff, causing the cabinet, even when fully loaded, to rock when the door was opened. There is a gap of $\frac{3}{8}$ inch between the door and the carcase, to accommodate the sealing pads, but this gap is visually reduced at the top – the only place where it is noticeable – by extending the door trim on a slightly different horizontal plane to make the gap only $\frac{1}{4}$ inch. The lower hinge pin bracket is unfortunately visible from the front. The bottom rail panel beneath the door is finished in black, which is reasonable, but the white feet that show beneath this look incongruous.

Internal arrangements

The inside of the refrigerator is less exciting because there are no breaks with tradition, though the scheme of white and ice blue looks cool, clean and modest. Vacuum formed, high impact polystyrene sheet is used for the lining of the cabinet and the door, and has a peculiarly attractive softness of shape and of touch. The number of ribs and ledges in the cabinet liner appears at first to be unnecessarily complicated, but on closer examination it can be seen that they all serve a functional or structural purpose. The cooling unit is space saving and easy to clean and the motor is neatly stowed behind a ledge at the bottom of the cabinet, so that the available space is well presented. The temperature control knob in white is poorly matched with the lining colour, and it would perhaps have been better to have used the blue for this knob. Marking, from 0–10, reads as in a scale of heat rather than a scale of cold, so that the low numbers are the coldest, which is disconcerting when one is 'turning on the cold'. We would suggest that the addition of the word 'coldest' would be an improvement and would eliminate any possible confusion on this point.

The shelves are well placed to take a wide variety of loads, but the lining of the door has a conventional

layout, with bottle and egg racks across the lower part and a small butter rack at the top. The capacity of half a pound of butter is hardly sufficient for normal use and the little rack below it is so small that it takes only a limited selection of bottles or packages. It would have been better to have combined the butter compartment with the small rack below, making a larger single compartment, leaving the users to deploy the space according to their individual requirements. Because of the thinness of the door itself, the racks project 3 inches into the cabinet when the door is closed, and it is easy to crack the eggs in the egg rack against any plate which overhangs the edge of the main cabinet shelf. We cannot help thinking that the courage and clear thinking which has been used on the exterior has not been applied to the same extent in these interior arrangements.

Refrigeration system

The refrigeration system is of the compressor type and is technically very sound. Prestcold has in its development laboratories an acoustically insulated room equipped with vibration measurement apparatus with which the firm has attempted to develop a near silent compressor system. Even so, the periodic starting and stopping of the refrigerator motor is mildly startling in a quiet kitchen. However, in the matter of silence the consumer must take his choice. The absorption system, used by some other manufacturers, is absolutely silent but it is at least twice as costly to run, occupies much more space, and is usually slower to freeze. In the *Packaway* the designers could not have afforded to have paid this price for silence, and many families will be prepared to tolerate the purring of a compressor system for the sake of the other advantages it offers.

In general the *Packaway* may be regarded not as a step but a leap towards the ideal of designing to fit more exactly the real needs of consumers. Its fundamental achievement is in being designed to take its place as a member of a team of appliances, rather than being conceived as a prestige-giving monolith to stand in isolation as a focal point in the kitchen – or in the shop window. Such criticisms as we have made are small in an appliance which is a triumph of serious design over the clichés and applied ornaments which are the mark of products styled primarily for the market place.

Comments *from the Pressed Steel Co Ltd on some of the points raised by the authors:*

Door latch pressure We have found that on a highly polished floor the cabinet is inclined to slide when a pull is exerted to open the door. To overcome this we have now added to the two front feet a small rubber grommet which rectifies this. Furthermore, steps have been taken to reduce the force of pull required to open the door.

White painted feet We would not disagree with your author's comment regarding the white feet, but think it very doubtful whether these would be visible in the

kitchen due to the angle of vision.

Motor noise We are surprised that the authors consider the starting up noise of the motor to be "mildly startling in a quiet kitchen" and wonder whether there was some extraneous noise such as a pipe fouling the cabinet when this particular model was tested.

Thermostat marking Arrangements are being made to include the word 'colder' on the thermostat knob in order that there can be no misunderstanding on the part of the user.

Human error and accidents



"In 1956, as in 1949 and in 1954, more than 400 million train miles were run and more than 1,500 million passengers were carried without the death of a single passenger in a train accident, and only three passengers were seriously injured."

That is the brighter side of a most disturbing report on railway accidents. It is shown that train accidents caused by human errors have increased steadily over the previous seven years. Accidents attributed to train crews have practically doubled since 1950. Could this trend, for which the chief inspecting officer found it "difficult to suggest an explanation", be remedied by an ergonomic approach? Are rules of conduct, and exhortations to take more care, effective ways of overcoming the inherent unsuitability of human beings as vital links in a mechanical system?*

In the following article it is suggested that accidents could be prevented by redesigning equipment to take more account of the irregularities of human behaviour. It is claimed that these irregularities could be accurately predicted by ergonomics research.

IT IS POSSIBLE that the recent train disasters at Lewisham and Dagenham were caused by only two of a very large number of failures of men or equipment which are statistically certain to occur each year on the railways. The recent report on railways accidents shows that there were 1,226 train accidents in 1956. No doubt there were a far greater number of failures that by good fortune did not cause accidents. The purpose of the following notes is to suggest that the best way of reducing chances of further disasters is to obtain more knowledge of the human errors that at present go undetected. This would make it possible for railway equipment to be designed and operated to counteract these errors. At present only the errors that cause accidents are investigated.

Despite the large number of accidents recorded each year and the spectacular numbers of casualties in a large train crash, rail travel is inherently safer than road and air travel. This is not because railwaymen are less

fallible than others, but because the railway always has been, and still is, the most automatic and regular of transport systems. Accidents are few because there is less scope for human control and human error by the men on the spot. Track and timetable are the means of deciding movements of trains before they take place. Automatic control of signals and train speed would presumably reduce accidents even further.

However, a completely automatic system may not be technically possible at the moment even if it could be afforded. Proof is needed to show that automatic control can be profitable as well as safe. But there is a principle involved in automatic control that can be used to reduce accidents at far less cost while human control is still used. The principle is that of separating a human action from its effects.

The fundamental advantage of any automatic device is not that it removes the human element, but that it allows the carrying out of human actions long before (by the late Lt Col G. R. S. Wilson, chief inspecting officer) HMSO 1957, 35.

* Report to the Minister of Transport and Civil Aviation on the accidents which occurred on the railways of Great Britain during the year 1956

ES SATURDAY MARCH
 'PASSED RED AT
 30-40 M.P.H.'

LEWISHAM TRAIN DRIVER ACCUSED

William Trew, the driver of the Rams-
 express steam train which was
 involved in the Lewisham crash on
 Saturday night.

FROM
 Sir I
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 some o

100 INJURED IN TRAIN CRASH

COACHES TELESKOPED

FROM OUR CORRESPONDENT

PAISLEY, MAY 20
 More than 100 people were taken to
 hospital at Paisley to-day after a
 passenger train from Gourock to Glas-
 gow had been in collision with a light
 engine and a brake van just after leaving
 Gilmour Street station, Paisley. One of
 the injured, Mr. P. McBride, aged 51, of
 Parliamentary Road, Glasgow, died
 to-night in hospital.

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Driver Trew on trial—'went past a red'

DRAMATIC
 QUESTIONS
 'CIP'

LADY ANGELA M. OF
 RE

RAIL SIGNALS
 "IN ORDER"

MINISTER REFERS
 TO STAFF BURDEN

INQUIRY CHIEF NAMED

MOTORMAN BLAMED
 FOR CRASH

FAILED TO OBSERVE
 SIGNAL

A motorman with a "blemished record" is blamed
 issued to-day, for the collision
 Central station, in the S
 of British Railways, or
 The report, by Brigadi
 an inspecting officer
 that Motorman H. F.
 "cept, full responsibl
 which his i
 "form.

The mystery vital signal

SIGNALMAN: IT WAS AT RED
 DRIVER: IT WAS AT GREEN

Express Staff Reporter

THE mystery of a vital railway signal developed yesterday during
 the first day of the London inquiry into the Dagenham fog
 disaster in which 10 people were killed and 89 injured.

Princess's
 howls

THAT SIGNAL, said Porter-Signalman Alfred
 Tinson, of the Upney, Essex, signal-box, was according
 to an indicator, set at red to halt the 6.35 from
 Fenchurch-street to Shoeburyness.
 He left his cabin for two minutes and was "com-
 pletely surprised" on returning to find the indicator
 showing "green".

their effects occur. It follows that all accidents are caused by human error. Operating errors are caused by human actions occurring at the time of the accident; equipment errors are caused by human actions occurring beforehand during research, planning, design and maintenance. What scope is there for separating human errors from their effects in both the design and operation of equipment?

Design errors

Although there is always time in which such errors can be corrected it is not always possible to discover them. A reduction of accidents attributed to failure of equipment, will be directly proportioned to the speed with which logical design methods and the use of calculation and analogues - instead of human judgment - can be introduced into the design of railway equipment. Preventive maintenance is the method of making up for the absence of exact design methods and a full knowledge of the behaviour of materials and processes. A fundamental principle is that nobody in design and planning work should be blamed for making errors, but should only be blamed for failure to ensure that errors are discovered and corrected.

Operating errors

These are the kinds of error that are increasing and for which the railway inspectorate offers no explanation. Such remedies as it does suggest involve a stricter enforcement of rules and exhortations to behave with a greater sense of responsibility. The report is scattered with phrases such as "misconduct of the public", "irregularities and want of care", "he was not properly alert", all of which imply that the problem is one of finding culprits and enforcing good behaviour. The weakness of this approach is that no amount of discipline or even goodwill can make people behave with the reliability of a machine. Accidents are caused by the very small percentage of human actions that will be erroneous whatever the circumstances.

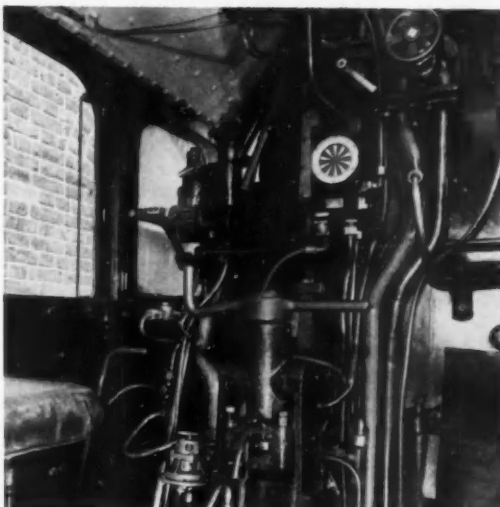
It is here that ergonomics has an explanation to offer and where it suggests a different remedy. The approach is based on the belief that people should not be expected to behave in a mechanical way. The employment of train drivers, signalmen and the like as links in an otherwise automatic and mechanical system is bound to produce errors as mechanical and human performances are so very different. Many tasks, such as absolutely continuous alertness, can be accomplished perfectly by a machine, but are impossible for human beings. Similarly a man cannot help using his intelligence to anticipate likely events whereas a machine will un-failingly wait for direct evidence to proceed. Motives can often be so diverse and contradictory that they make it possible for a man to act against his own intentions, particularly when guilt and blame are involved. The ergonomic approach is to acquire a far greater knowledge of human behaviour than exists at the moment so that errors can be anticipated or avoided. Three instances where this knowledge could be applied are given on the following page.

1 Watch keeping The briefest reading of the already extensive ergonomic literature on human vigilance suggests that it is unrealistic to expect any one person to be continuously alert for long periods. Of particular note is D. E. Broadbent's theory of 'internal blinking' of the sensory system,* which may sometimes account for such errors as failure to notice signals. There can of course be many reasons for failure of observation and it is here that the eye movement recorder developed by Brian Shackel, shows the value of recording human behaviour in order to discover errors before accidents occur. 2. An important point is that errors should be investigated under normal working conditions in an atmosphere that is devoid of blame or recrimination.

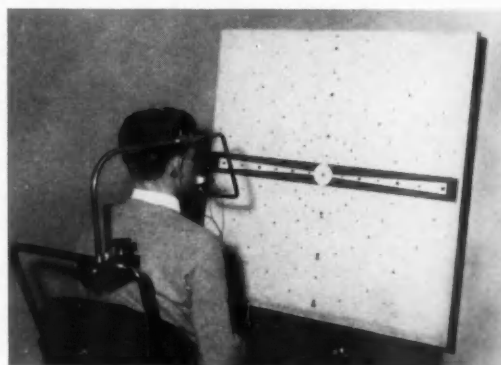
2 Unintended actions To expect a man to be able to act invariably and exactly as he intends to act, or as others intend him to act, is to ignore the complexity of human motives, conscious and unconscious. The apparent ease with which training and experience can enable a man to subdue the variability of his responses to instructions and signals, should not blind us to the fact that no amount of discipline or even good intention can avoid a certain percentage of mistakes. It is not necessary to read, say, Freud's works on the unconscious causes of slips and error, or literature on failures to observe signals under heat stress, to realise that there are many occasions when self-interests or bodily demands prevent us accomplishing actions that are normally very easy. The train driver who caused an accident because he "involuntarily cancelled the Automatic Train Control brake application without realising what he was doing", was making a typically human error that might be anticipated by ergonomic design.

3 Human judgment The ability that is most valued in the higher and more demanding human tasks is precisely the one that makes people so very unsuitable for mechanical tasks. That ability is judgment. Our normal actions are based not on simple responses to simple signals, but on continuous and tremendous collective calculations of probabilities. In this sense the mind of even the least intelligent person can be regarded as a vast computer, which is not only unsuited to trivial calculations, but will not do them in a simple way. Investigations based on an assumption such as this might well be the means of counteracting the frequent accidents that arise when a railwayman acts in accordance with what he expects to happen, rather than what is happening before him. Such phrases from the report as "assumed from his fireman's remarks that both (signals) were clear", "assumed that the signalman had understood his destination from his shout as he passed the box", "failed to notice that the points had been changed", "assumed that no other vehicle would move on to the crossing when the way off was blocked", show how often this most typically human ability is the cause of an accident.

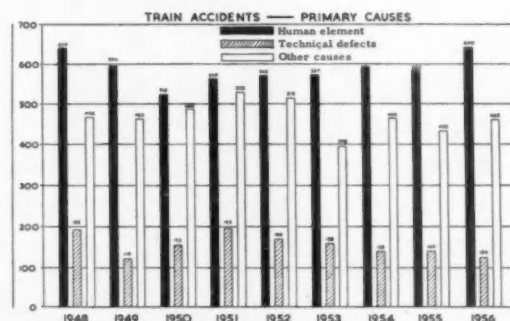
* D. E. Broadbent, *Proceedings, Royal Society of Medicine*, 1956, Vol 50.



1 Accidents attributed to the errors of train crews have practically doubled since 1950. How often do human errors that could cause accidents occur under normal conditions? To what extent does the working environment - as shown here - contribute to these? It is suggested that ergonomics research into such questions is the most effective method of reducing accidents in the immediate future. (Official BTC photograph of a locomotive cab, issued in connection with Automatic Train Control.)



2 An eye movement recorder. Recording devices such as this could be used to study the likelihood and occurrence of human errors in vigilance and other tasks involved in train driving. This device was developed by Brian Shackel, engineering psychologist at EMI Electronics Ltd.



3 Accidents attributed to the human element have increased fairly steadily since 1950. During this period accidents caused by the operating staff have increased by nearly 24 per cent; accidents caused by train crews have increased by nearly 100 per cent. (Chart reproduced from the report on railway accidents referred to in the article.)

Review of current design

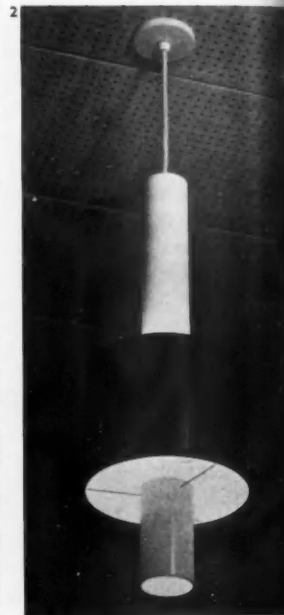
A selection of items recently accepted for inclusion in 'Design Index', the CoID's photographic and sample record of current well designed British goods. 'Design Index' forms an essential part of the The Design Centre, 28 Haymarket, SW1, which is open on weekdays from 9.30 am - 5.30 pm, and on each Thursday until 7 pm.

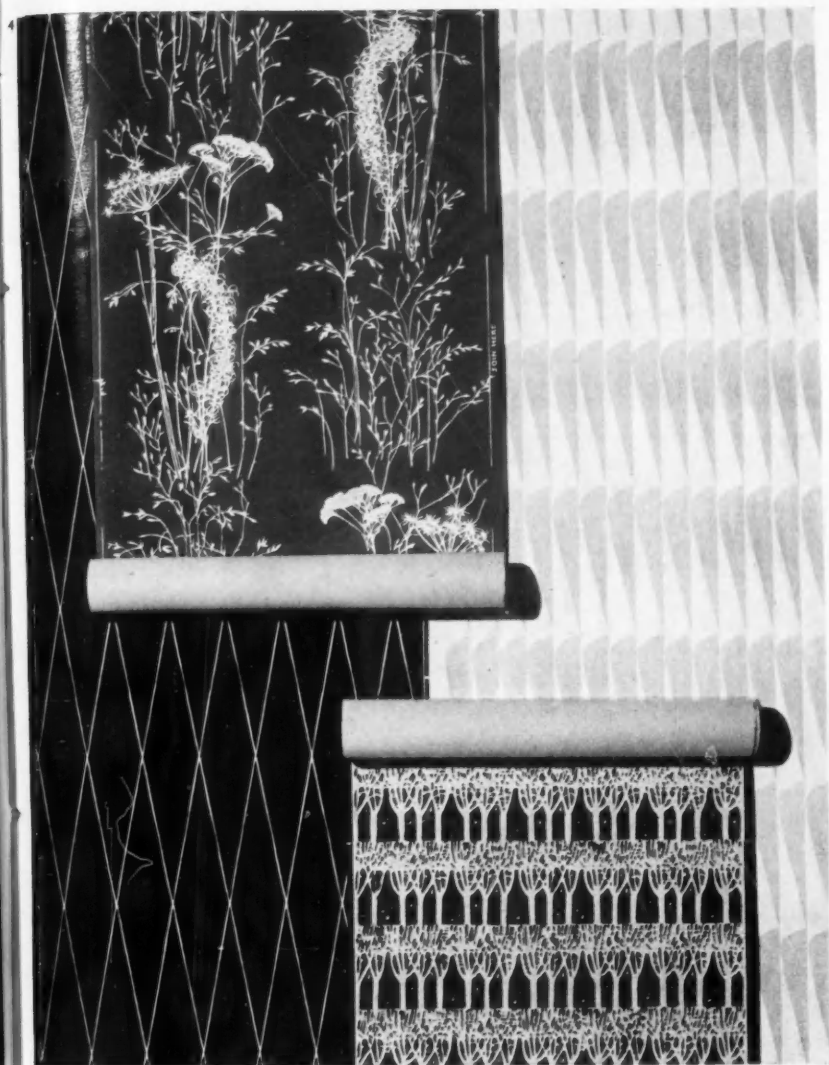


1 Kitchen knives in forged stainless steel with *Pagewood* handles, finished to resist boiling water. MAKER *F. A. Kirk (Cutlery) Ltd.* £3 6s 6d per set including a fork.

2 Pendant lighting fitting (*TAX42*) of aluminium, mild steel and brass stoved black and white. MAKER *Courtney Pope (Electrical) Ltd.* £4 19s 8d, including *louvre*.

3 Woven cotton and cellophane drape (*Manhattan*) in various colours to order; widths up to 45 inches. DESIGNER and MAKER *Barbara Sawyer*. £2 5s per sq yd.





4 Four designs from a new pattern book of screen and block printed wallpapers. Top, *Grasses*, designer Sheila Poullada, four colourways, £1 14s - £1 16s per piece. Left, *Festa*, designer Elizabeth M. Gould, three colourways, £1 10s - £1 12s per piece. Right, *Deckle*, designer Walter Kraner, three colourways, £1 7s - £1 9s per piece. Bottom, *Avenue*, designer Elizabeth M. Gould, four colourways £1 8s - £1 12s per piece. MAKER Hayward & Son Ltd.



5 Occasional stacking chair (C43) in steel tube and rod, stoved in any BS colour; foam rubber base on tension springs. DESIGNER John N. Stafford. MAKER Stafford Furniture Ltd. £10 14s 6d - £12 7s 6d according to fabric.



6 Onion hoe (BNT664) with polished forged steel head and beech handle. MAKER Brades & Nash Tyzack Industries Ltd. 9s 9d (three-inch blade); 10s (four-inch); 10s 6d (six-inch).

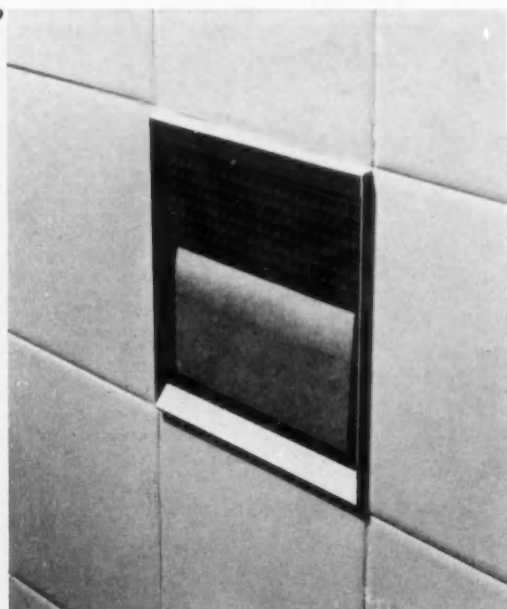


7 Thermosetting plastics cabinet knobs (919 and 920) polished in several available colours. MAKER Healey Mouldings Ltd. Prices from maker.

All retail prices quoted are approximate and include purchase tax where applicable.

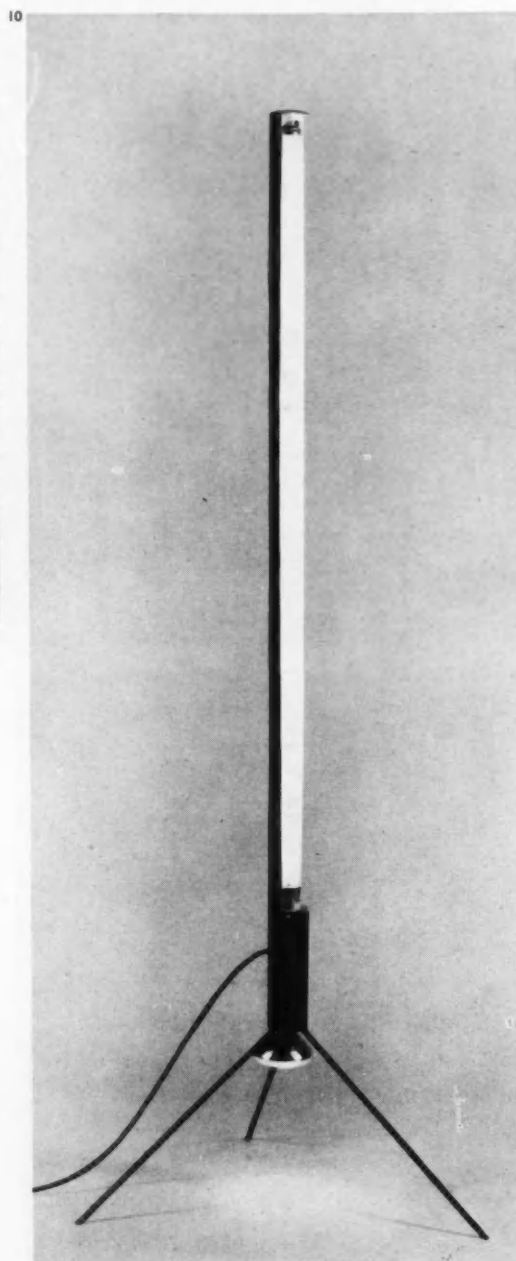
Review of current design

8 Table television receiver (T1006) using 21-inch tube in laminated cabinet with dark walnut finish. DESIGNER *J. K. White*. MAKER *Ferranti Radio & Television Ltd.* £93 9s.

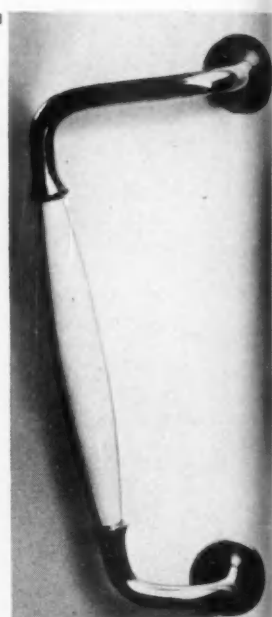


9 Toilet pack holder (*Gold Seal*) in polystyrene in various colours, can be wall mounted or recessed. DESIGNERS *Martin Rowlands and Brian Smith*. MAKER *Ekco Plastics Ltd.* 9s.

10 Portable fluorescent standard lamp (FSL4075) with aluminium sheet reflector stoved black. Other colours available. Height five ft six inches. DESIGNER *Ernst Pollak*. MAKER *Fluorel Ltd.* £11 16s 5d (lamps extra).



11 Cranked pull handle (H108) of aluminium, bronze or brass rod in various finishes with *Doverite* plastics grip. DESIGNER *Roger Peach*. MAKER *Dryad Metal Works Ltd.* From £2 2s 6d - £3 10s according to quality.



12



12 Suitcase (*Revelation A 20/2*) of woven glass fibre on foundation board; PVC cloth cover in tans and pastel blue. DESIGNER *J. A. Hanauer*. MAKER *W. Wood & Son Ltd.* £6 19s 6d (22-inch); £7 19s 6d (25-inch); £8 19s 6d (28-inch).



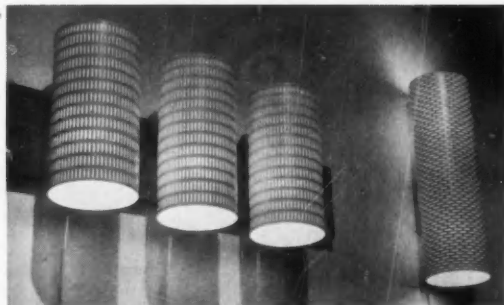
15



13 Lecture theatre seating of welded steel supports stoved grey with foam rubber seats covered with PVC cloth *Briartweed*. Pre-formed writing shelves and backrests. (Originally developed for Liverpool University). DESIGNER *Ernest Race*. MAKER *Ernest Race Ltd.* Prices on application to maker.

14 Woodworker's vice (702) of plated mild steel and japanned cast aluminium. MAKER *Stanley Works (GB) Ltd.* £1 5s.

16



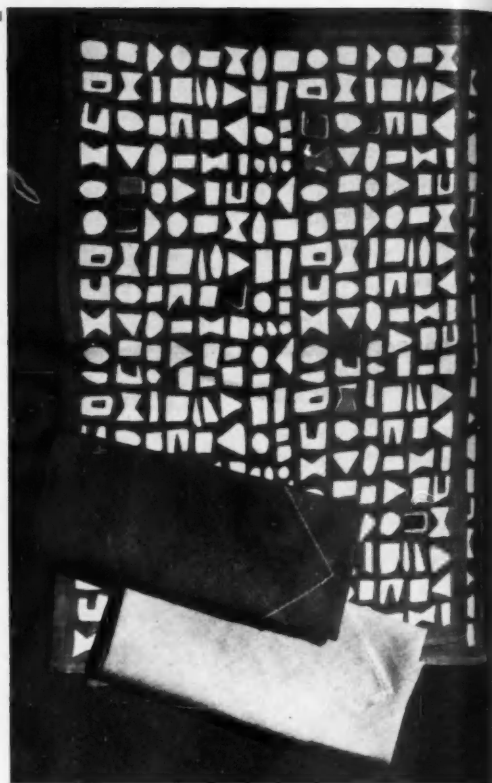
15 Sink mixer tap (*Easilyne*) in chromium plated brass and with divided water way. MAKER *Sanbra Ltd.* £7 10s.

16 Wall brackets (left, W384, right W387) with metal shades available perforated vertically or horizontally and in white, yellow or red. Stainless steel at extra cost. DESIGNERS *John and Sylvia Reid*. MAKER *Rotaflex (GB) Ltd.* £2 19s 11d (W 384); £3 19s 11d (W 387).

DAN JOHNSTON
Industrial officer, CoID

Future for Irish linen

R. H. Crawford the director
of Thomas Somerset & Co Ltd,
who is responsible for the
new design policy



1 *Motley* place mat and napkins; this design, in three colourways, is also available on tablecloths.

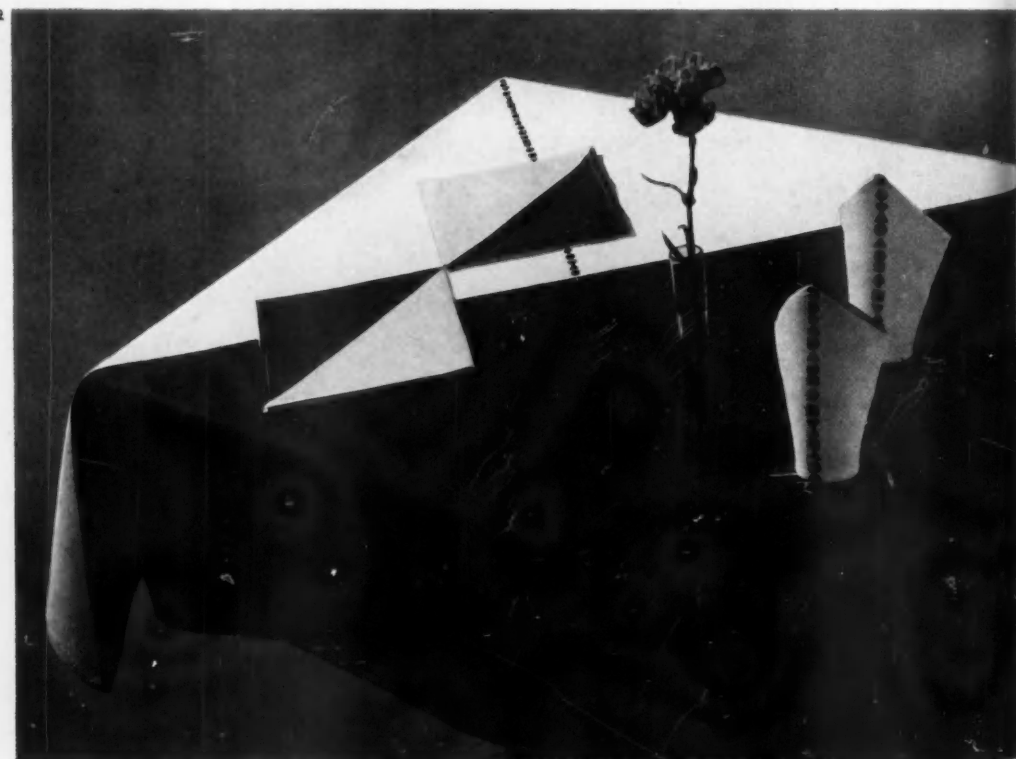
DESIGNER *Lucienne Day*. £1 9s 6d (four place mats and four napkins). Photograph by courtesy of Heal & Son Ltd.

2 *Mitre* tablecloth and napkins, also available in grey and mushroom.

DESIGNER *Lucienne Day*. £2 19s 6d (tablecloth, 52 x 52 inches, and four napkins).

3 *Zebra* one of the new designs for glass cloths. 4s 11d.

Approximate retail prices are quoted.



FOR SOME YEARS the linen industry of Northern Ireland has been declining, a tendency that is to be regretted for economic, as well as for sentimental reasons. The prosperity of Northern Ireland is still very dependent on linen, and in the economy of Great Britain as a whole its export potential is by no means negligible. Last year was not an exceptionally good one, but Irish linen earned some \$15 million, in addition to maintaining a valuable trade with Commonwealth countries.

There can be no doubt that design is the spearhead by which the promotion of a successful future for the industry can be assured. Linen is still unsurpassed in its own field; it is smooth to handle, and its freedom from lint makes it ideal for the dining table, and for glass cloths. But while traditional linen damask has unquestioned beauty and practical merit, the grandmotherly quality of the designs associated with it has dimmed its sales appeal at home and abroad.

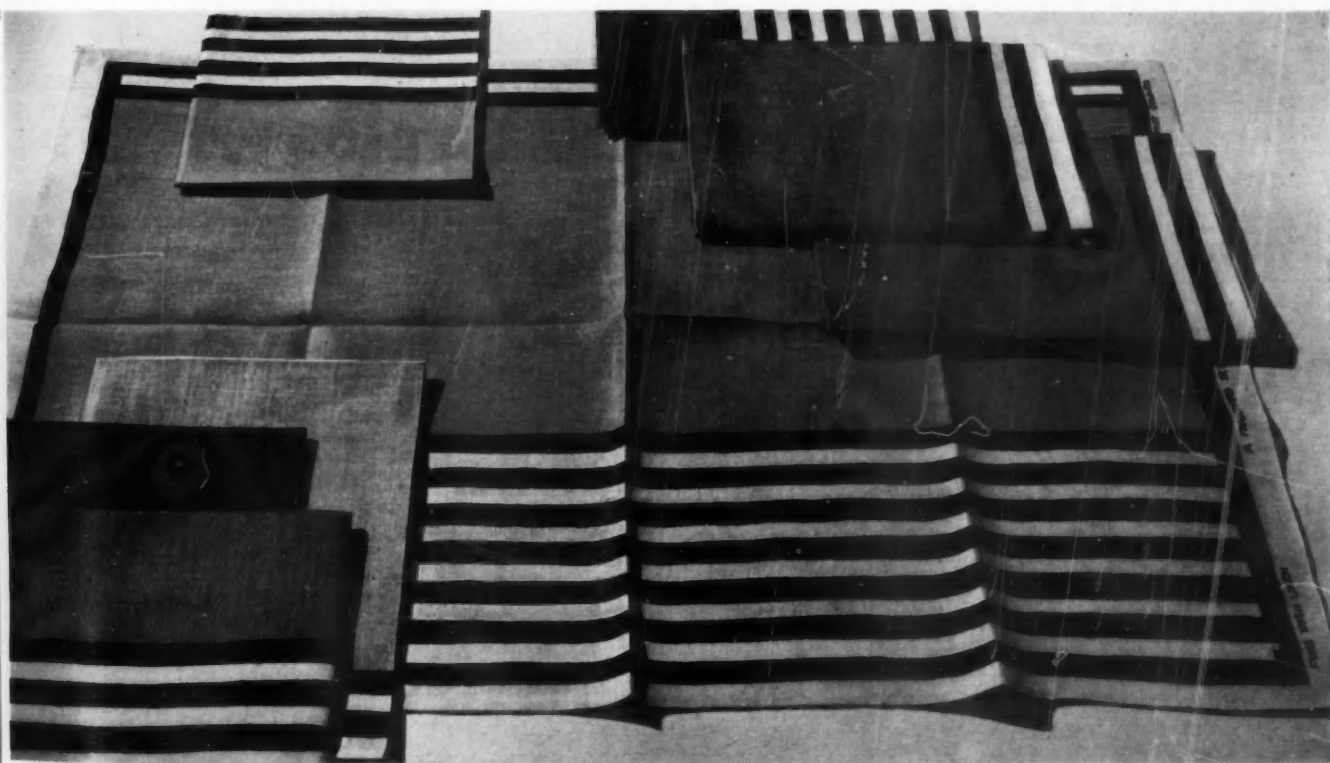
That a new approach was needed has been obvious enough, and one proof that new ideas on linen can succeed has been provided over the past few years by the popularity of printed linen kitchen towels. It is true that much of the design and colour applied to these cloths is mediocre and crude. Nevertheless this break from the humdrum past has proved a temporary salvation for the industry, and it is now time to re-establish once and for all the popularity and prestige of linen.

There is clearly a need for new standards of design

and originality of outlook. The record of Thomas Somerset & Co Ltd stands out against this background. This old established firm is now under the direction of R. H. Crawford, who has been with the company for about five years. The war brought about a considerable reduction in the firm's export trade, which has now been built up again; to achieve this it has employed designers of ability. The firm's principal exports are in the print range, but some interesting ideas have also been tried in machine embroidery – another technique for design on table linen that has suffered in reputation in recent years from the poverty of patterns generally associated with it.

In the home market a large part of the range is sold by Fragonard Ltd, wholesale specialists in London. Issued simultaneously in the Fragonard ranges are a number of new designs for kitchen towels and two designs for printed linen tablecloths and napkins, the latter commissioned from Lucienne Day. The designer of tablecloths is faced with the problem of producing a cloth that is interesting in its own right, but which at the same time provides an acceptable background for pottery, glass and cutlery. Mrs Day succeeds by using bold colours and controlled patterns.

The glass cloths are distinguished by the use of less obvious colours and by a welcome restraint in pattern. Both this range, and the new tablecloths, will undoubtedly set a new standard for the industry.



The *Spur* system of adjustable shelving is among the most recent to appear on the British market. Around the title **BELOW** is shown the 7-inch bracket full size.



The simple cantilever

A pair of tabs hook into the slotted wall member, which is also of simple U-section. By employing a drill which is a little smaller in diameter than the woodscrew to be used, the wall member may be screwed directly on to brick, etc, without the use of wall plugs.



THE DESIGN of a cantilevered bracket for the support of adjustable shelving is a problem which would appear to lend itself to immaculate solution. The distribution of the structural loads is fairly readily measured or calculated; the assembly consists of one, two, or at the very most, three pieces; the appearance of the finished product can be very closely related to its structural function; and it could be sold in very large quantities. One might have expected somebody, somewhere, to have gone into this compact little problem and to have found the ultimate solution. Yet there is little evidence that anyone has actually done so.

Many exhibition and display designers have felt impelled either by dissatisfaction with available systems or by the attraction of the problem itself to design their own adjustable shelving for specific applications. Scores of systems of adjustable display equipment have been known and used in shop fitting for many years, but none of these has seemed to prove itself so exactly right that it has swept into universal use. The recent surge in the development of self service retailing has brought this question to the forefront once again.

Successful trading by the self service method demands a very high density of display. Instead of selling from the packing case, and leaving the counter or wall display untouched, a sufficient quantity of each variety of merchandise must be set out on the shelf. In addition it is necessary that the height of all the shelving should lie between knee level and shoulder level. In the old system the shelves could extend from floor to ceiling and the packing cases could be stacked anywhere. These considerations demand that self service shelves must be capable of bearing heavy loads, adjustable to fit the sizes of the goods, attractive to look at, and perfectly secure.

Rigid and adjustable

Most of the manufacturers of adjustable shelving make great play in their advertising of the lightning speed with which their products can be adjusted to new positions. One might be forgiven for thinking that continued rigidity after a few years' hard service might have been more to the point. There is one manufacturer, however, who inclines more to the latter approach by basing his advertising upon the claim that his product is scientifically designed and precision built. This is Savage and Parsons Ltd, well known as scientific instrument makers and engineers. In the second sentence of its leaflet, the firm writes: "Most architects and engineers will agree that this (shelf support) problem has never previously been given the attention it deserves."

The *Spur* system of adjustable shelving, which was developed in Sweden, is among the most recent as well as the most attractive currently available on the British market. The simple cantilever is of U-section formed from 14 SWG steel plate, tapering unpretentiously from a deep root to a spherical end, and finished in grey, terra cotta, white, or black. Nickel, chromium, and galvanised finishes are also available. The monolithic shape expresses its upward thrusting function per-

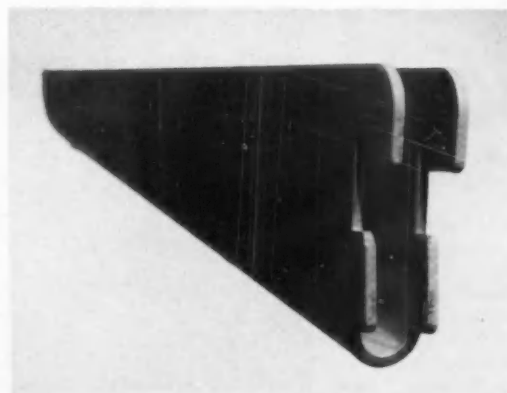
fectly. To outward appearance it could just as well be made of solid wood as of sheet metal, which may offend the purist but which is entirely justified from the structural point of view. The U-section is excellent for strength. The lower half, which is in compression, is of semi-tubular form, while the upper half, in tension, is in the form of twin plane membranes. It would be difficult to improve on such an arrangement.

From the viewpoint of the ultimate strength of the bracket itself, the critical feature is the form of the root. The upper corners of the root are notched to form hooks which engage with a slotted wall member. The lowest part of the root butts against the wall member while two tabs near the bottom register with a second pair of slots. The effect of placing a load upon the bracket is to press the lower part more firmly against the wall member and to pull outwards more strongly on the hooks. If the load were to be increased until the bracket failed it would probably be found that the hooks would give way first, the sharp corners of the notches being obvious sites of high stress concentration.

However, the strength of a system is the strength of its weakest link, and here the weak link is the wall member. Under test in the Savage and Parsons factory it was found that when an increasing load was applied vertically to the tip of the bracket, the wall member buckled in the immediate vicinity of the bracket root before the bracket itself gave way. For normal service this is no bad thing, because the failure is highly localised, and if the damaged slots are thereafter avoided, it is unnecessary to buy replacement parts. It so happens that in appearance too, the wall member is the weak link in the system, but there seems to be no easy or economic way of concealing the somewhat insistent Morse Code of slots.

The *Spur* system looks very like the ideal answer to the problem of adjustable shelving. Unfortunately, the leaflet supplied with the samples sent to DESIGN by Savage and Parsons featured a table of carrying capacities relative to various *Spur* brackets which was demonstrably irrational. The revised figures which are now being published show that in most cases the brackets are stronger than the original leaflet indicated.

*Brackets prices range from 2s 5d (5-inch) to 12s 2d (18½-inch)
Wall uprights prices range from 1s 3d per length (4½-inch) to £1 1s 10d (7ft 10½-inch).*



The U-section of the typical *Spur* bracket is chosen for strength. The semi-tubular lower part is in compression while the twin webs of the upper part are in tension.



Communication techniques



PETER E. M. SHARP

Troughton & Young Ltd

When the artisan was his own administrator the problems of communication were small; later a boy on a bicycle, the established postal system, and the occasional telegram were enough. As firms grew so did their communications; runners gave way to telephones, bicycles to fleets of lorries and cars. Factories and offices became separated; offices stayed in business areas, factories spread to where there was labour, or where the raw material lay, or simply to where the Government directed them. Branches grew in provincial centres and then throughout the world. Thus communications became an industry.



BRITAIN HAS BEEN PARTICULARLY slow to take advantage of modern techniques, eyeing with distrust instrumentation in the factory, treating the telephone as an enemy or as a symbol of power, and the telegram or cable as something to be sent in a dire emergency. Hours every day are wasted on inefficient communications.

Telephony

One of the most used and abused instruments is the telephone. Antiquated switchboards, insufficient lines, poorly trained operators, and inaccessible staff lead to frustrations. The automatic exchange should reduce delays; the Private Automatic Branch Exchange (PABX) relieves the company's operator of all but incoming calls, and at the same time does away with the inconvenient second telephone for inter-office calling. Small units for the private user (up to 50 internal lines) are now acceptable to the GPO, although units of almost unlimited size are made in the UK for elsewhere in the world.

Associated with telephones, though not yet a part of the national system, is the radio telephone, 6, extensively used by police, fire and ambulance services, but not as widely used in company service vehicles, or in the cars of executives, as it could be.

The problem an operator often has to face is the location of an individual. Staff calling systems in the past have relied on visual or audible signals which frequently disturb everyone except the person being called. The advent of the transistor has revolutionised portable radio receivers, so that a personal one can now be carried in the breast pocket, 7, 8 and 9. Already in use in hospitals and hotels, this system is likely to assist in factories and offices.

The world-wide network of telephones is being improved rapidly. The electronic telephone exchange is a practical proposition; high speed dialling over expensive trunk lines is now an everyday occurrence, so that elaborate systems have to be used to store and re-transmit at a rapid rate what the human finger dials out slowly. Clarity over great distances has been vastly improved by the use of submarine cables fitted with undersea amplifiers. As these improvements become universal, the structure of charging for calls is affected. A 100 years ago it was realised that the major cost of handling a letter was at either end, and the penny post became nation-wide. We are seeing the beginnings of a similar revolution in telephony with the virtual abolition of the toll area around London this year.

Telegraphy

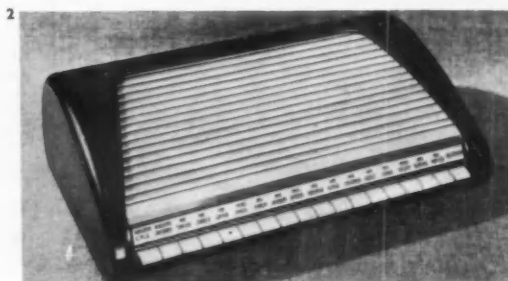
Letters and memos between office, branch, and factory are wasteful of time and staff; the teleprinter, 10, is a simple and immediate process. The Telex system which allows the connection of teleprinter over telephone wires, is international. Ultimately, it will be possible to dial a number and get your teleprinter connected direct to your branch office abroad or to a customer. Furthermore, to economise on line time the messages can be punched on to tape and sent out in a long sequence, often at many times the speed of typing. Less urgent messages can thus be sent at times when lines

continued on page 45

telephony



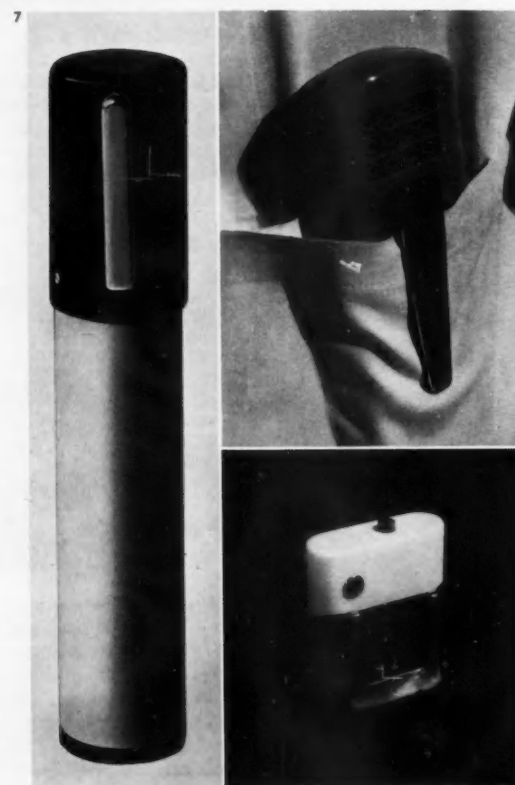
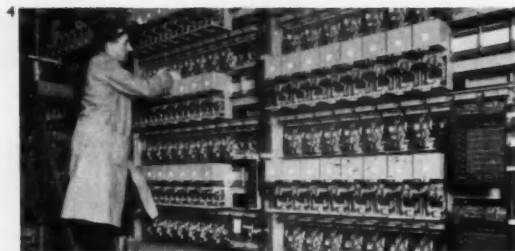
1 Recent developments of plastics with high impact strengths have led to the introduction of new designs for telephones. Cases are lighter, costs reduced and a wide range of colours is available. The illustration shows the new standard model the GPO is to introduce in spring 1959.



2 Loudspeaking telephones leave the hands free, and allow others to hear the conversation. They have been restricted in Great Britain (Hull excepted) to internal use, but new developments in preventing 'howl-round' (audible oscillations) may force their acceptance over national networks. The appearance of these instruments in most instances has been notoriously bad, but this design has an unusual unity and neatness. MAKER *Standard Telephones and Cables Ltd.*



3 The cordless switchboard is a great advance on its predecessor, since it allows the operator to handle a far greater volume of calls. The equipment associated with it enables inter-office calls to be made without going through the operator, and can be arranged to give special facilities such as holding a call while the recipient speaks to another line, and transferring incoming calls without the assistance of the operator. While the plastics faced panels are neatly laid out in this model, the detailing of the wooden desk might well be improved. MAKER *Automatic Telephone & Electric Co Ltd.*



telephony continued

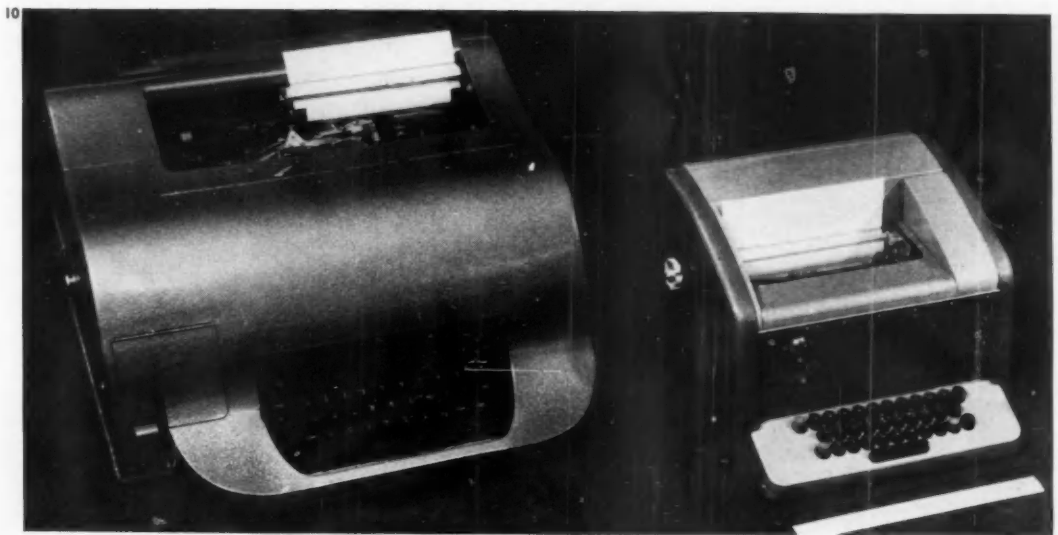
4 and 5 Dialling a telephone number of seven or more digits takes up valuable equipment time, particularly if these codes have to go via a number of exchanges. High speed dialling over trunk lines has been in use by the GPO for some years. A bank of motor uni-selectors is shown in 4. A later advance is the use of magnetic storage drums which can hold a whole series of complete seven-digit numbers until a line is available along which they can be routed. 5 shows the magnetic drum installed at Lee Green exchange by the Automatic Telephone & Electric Co Ltd.

6 Mobile radios are now quite familiar in police cars, ambulances, and taxis, but they are rarely to be found in executives' cars, and not nearly frequently enough in service vehicles of industrial concerns. This illustration shows how modern equipment can be mounted in the dashboard. MAKER *British Communications Corporation Ltd.*

7, 8 and 9 Staff calling to individually tuned radio receivers carried on the person is obviously far superior to loudspeakers or flashing lights. The models illustrated here can be arranged to give an audible signal and/or to receive a spoken message (but there is no way of ensuring that the message has been received unless the recipient goes to the nearest telephone). This technique has been made possible by the use of transistors, and might be considered an off shoot of the deaf-aid. Flat cases would seem to be more suitable for insertion in the breast pocket. MAKERS 7 *Multitone Electric Co Ltd* (height 5 1/4 inches); 8 *British Communications Corporation Ltd*; 9 *Westrex Co Ltd.*

telegraphy

10 Teleprinters in this country are virtually the monopoly of one company. It seems a pity that the firm has not used its resources to improve the appearance of the machines. The latest model, right, which has many technical advantages over the current machine, apart from a considerable reduction in size, shows its drawing office origins only too clearly, and the applied two-tone decoration does nothing to detract from its awkward shape. **MAKER** Creed & Co Ltd.

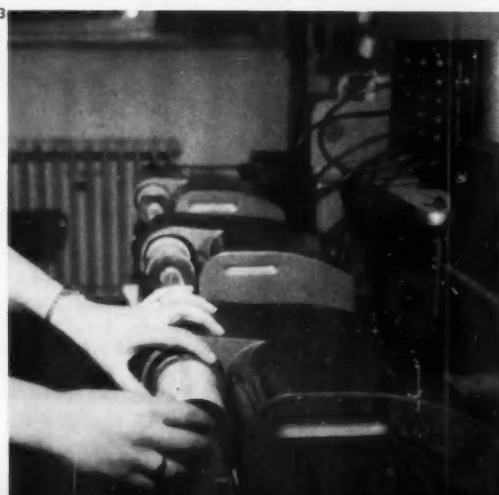
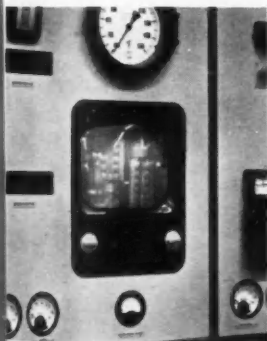


visual communication

11 Television cameras can often be placed where direct observation would be impossible – certain types of nuclear plant are an obvious case. Water level gauges are difficult to translate into electrical terms for transmission over wires, and television is used at Castle Donnington power station to observe them. Apart from total failure of the link, an error in transmitting information is impossible. **MAKER** Marconi's Wireless Telegraph Co Ltd.

12 Where rapid transmission of a variety of information is required television can be of value. The Scottish and Australian Bank in Melbourne keeps its ledger records some half mile from the branch, and customers can use this television link. **MAKER** Pye Telecommunications Ltd.

13 This compact facsimile equipment at the head office of the Metal Box Co Ltd transmits as well as receives. Three units working side by side are shown; at the back are continuous page recorders with a simple exchange unit linking the various London branches. The message area is restricted to 5½ inches × 2½ inches, with a transmission time of 2½ minutes. **MAKER** Creed & Co Ltd.



Communication techniques

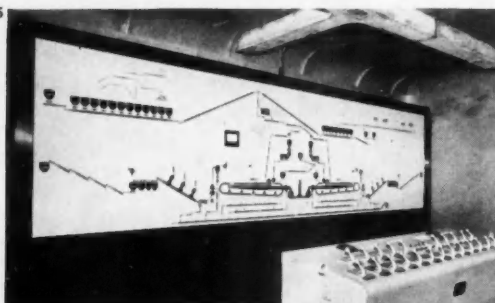
14



visual communication continued

14 Facsimile is a slow motion scanning system similar in principle to television. This equipment can take documents, drawings, letters etc, up to 14 inches x 8½ inches and transmit them in about 6½ minutes. The receiver (not shown) uses a moist electro-sensitive paper. **MAKER** Muirhead & Co Ltd.

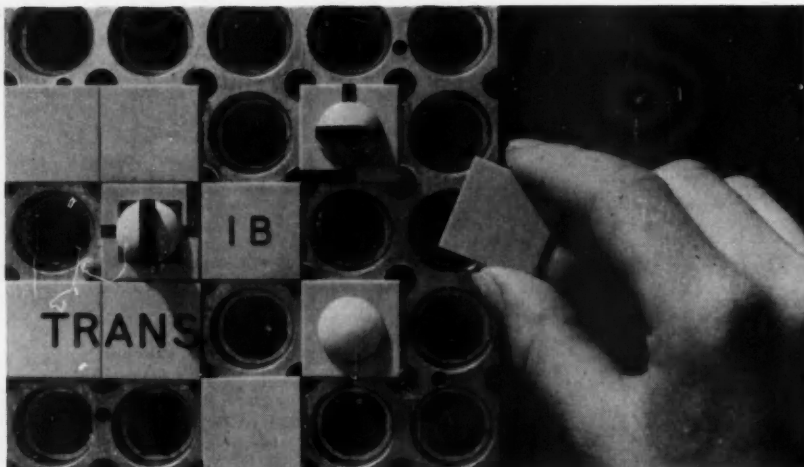
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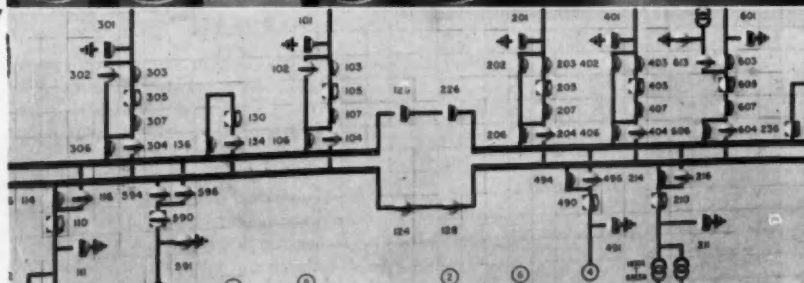
15 Remote indication is here combined with remote control. Indications on a mimic diagram can not only tell what is happening in a large plant, but can also show that an operation carried out remotely has actually taken place – ie the mimic diagram is not connected with the operating switch but back via a separate pair of wires to the operating position. The illustration shows a mimic diagram for a steel sinter plant. **MAKER** Standard Telephones and Cables Ltd.

16 and 17 Every mimic diagram is different. This manufacturer has developed an ingenious tile system which enables the diagram to be built up, and allows for expansion or other changes. The example shows part of a panel in the South Thames Control Centre of the Central Electricity Generating Board, **17**, with, **16**, the die-cast modular grid on which it is based. **MAKER** Standard Telephones and Cables Ltd.

16



17



18



mechanical systems

18 It is unusual to find pneumatic tube systems in a factory. The illustration shows the works office of Foster Transformers Ltd where pneumatic systems are used for component stock control. Pneumatic tube systems are not thought of as being flexible. By means of a sensing head (see bottom picture, page 40), however, they can be made to drop out *en route* round a building. Elaborate installations are now in use in large office buildings. **MAKER** Lamson Engineering Co Ltd.

Photographs 5, 6, 13 and 18 are by John Garner; 14 is by Sam Lambert.

are otherwise idle. The teleprinter is a very economic means of communication as 18-24 of them can be used simultaneously on one speech channel (ie one pair of telephone lines, or one radio transmitter). Its flexibility is such that records can be kept at both ends, and it is also possible to transmit the message simultaneously to a number of points.

Teleprinter techniques are of course widely used in computers, and similar systems can be used attached to any source of information which can be recorded. An example would be cash registers in a department store. By connecting all of them to a network similar to a teleprinter system it would be possible to see at any moment the sales of a particular department, the turnover of any item, or the total sales of an assistant. Rapid advances of teleprinter techniques can be assessed from a recent development which will allow tapes to be punched at 40 times their present speed. On the other hand, there is reluctance in Britain to use even present resources: at the end of last year there were only 4,150 subscribers on Telex in this country, compared with over 20,000 in Western Germany.

Visual communication

Television immediately springs to mind as an ideal means of universal visual communication. In practice its application is restricted. It is an extremely extravagant communication channel; most of the information sent is useless as it is mere repetition, and other methods are far cheaper. For instance, over telephone lines television might well occupy the equivalent exchange and transmission equipment of 600 simultaneous telephone conversations. Facsimile might be regarded as slow motion non-repeating television, and is very useful for the transmission of sketches, notes, etc, over telephone lines, 13 and 14. The present limitation of some 30 miles is likely to be overcome shortly, and the equipment is cheap compared with a teleprinter.

Telemetry is a form of transmission of information rarely used. It is even fairly rare to extend a meter reading in a factory to a convenient position for the operator, but current techniques allow for the transmission of this type of information over vast distances. The British Electricity Generating Authority can see at a glance on meters in its London control centre the flow of current in the major parts of its extensive high voltage network throughout Britain, and soon presumably in parts of the Continent when the cross-Channel cable is complete.

Mechanical systems

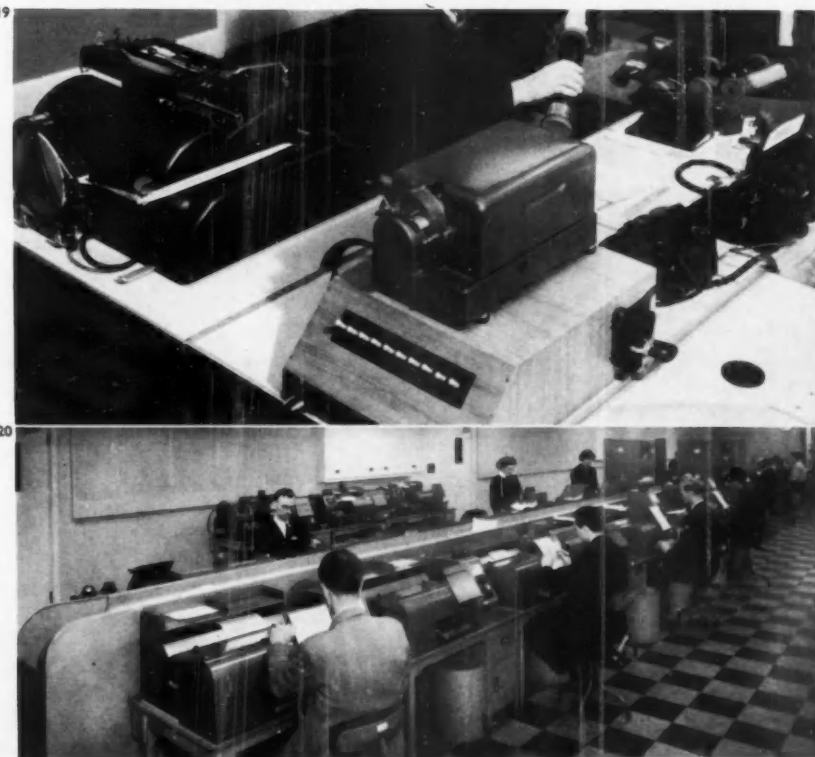
The cable tracks of Victorian drapers' shops, with the modern title of 'kick back conveyors', are finding new uses today to carry documents in airports. Most widely known from its application in department stores, the pneumatic tube system has great potentialities in office and factory. A recent development allows the carrier to be pre-routed, so that it can be used, in preference to an office boy, to send messages, samples, cash, etc, around a building, 18. This system is already widely used by the GPO, in new office buildings (notably Wiggins Teape & Co Ltd in the City of London), airports, and a few factories.

Co-ordinated systems

Ultimately the firm which considers its communications as an entity must use a number of different systems. Many of the bigger firms, Shell, Unilever, Metal Box, etc, have special departments to deal with these problems. It is often more economic to centralise teleprinters and re-transmit the messages by hand, facsimile, or by pneumatic tube to their various destinations. London offices, where there are peak hours for communications, may find it necessary to use storage systems and transmit when lines are available. Special problems need special treatment, and an example of this is illustrated below, 19 and 20.

However, as J. Christopher Jones has recently pointed out in his articles *Automation and design*, executives could soon control their factories from wherever they happen to be. They will need good communications to do this; the means are already there, but they are being applied at a disastrously slow rate.

co-ordinated systems

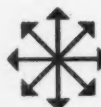


19 and 20 The communications centre of a large concern can be an elaborate affair as these illustrations of the head office of Shell-Mex and BP Ltd indicate. In this operating position 19, a number of systems are integrated. On the far left is a perforating typewriter, followed by a perforated tape reader, telephones, and a terminal for the pneumatic tube system. 20 shows the teleprinter room: in the foreground are teleprinters on the firm's private network, and behind them the teleprinters on the international Telex system. To the far right can be seen the cabinets containing perforated tape cutters which can record teleprinter messages when there is no direct printing machine available.



New products at Brussels

JOHN E. BLAKE



overseas review

LAST MONTH we illustrated some of the more effectively designed pavilions at the *Brussels International Exhibition* and discussed in general how individual nations had set out to present themselves and their way of life to the world at large. In this review a selection has been made of some of the products on view showing, firstly, those designs which to British eyes reach high standards, and secondly, examples of goods which appear most to typify the general character of the manufacturing industry in each country.

It must, however, be made clear that this exhibition differs from other international exhibitions, such as the *Triennale*, or the big trade fairs, in that the individual products shown are largely incidental to the main theme of each pavilion, a theme which may describe a country's fight to reclaim land (Netherlands, Israel), or may attempt to show the traditional background to its way of life (Thailand, Morocco, Great Britain), or to describe the workings of particular industries (Belgian Electricity and Petroleum), or may even set out to sum up the whole country in its science, industry and art (USSR, USA, and the whole Belgian section). Thus, the visitor looking particularly for individual products may have to search carefully for them, though his efforts will certainly be rewarded.

The most immediately obvious groups of products are those from the heavy engineering, machine tool and instrument industries. Clearly Russia and the Eastern European countries place great emphasis on building up these basic industries on which their future development so much depends. Machine tools and optical equipment from Czechoslovakia impress with the immaculate finish and the attention which has obviously been given to the clear layout of controls. Similar equipment from Russia looks equally efficient, though

less well finished, and is displayed in formidable quantity, making a strange contrast with the domestic furnishings and consumer products, which could hardly be more crude in both design and workmanship. There are clear signs, however, that the USSR is taking more of Western fashions. The sack line has caught on (though one cannot help feeling with some misunderstanding) and the motor industry (equally susceptible of fashion change) has come forward with some fairly accurate copies of the 1956 Detroit styles.

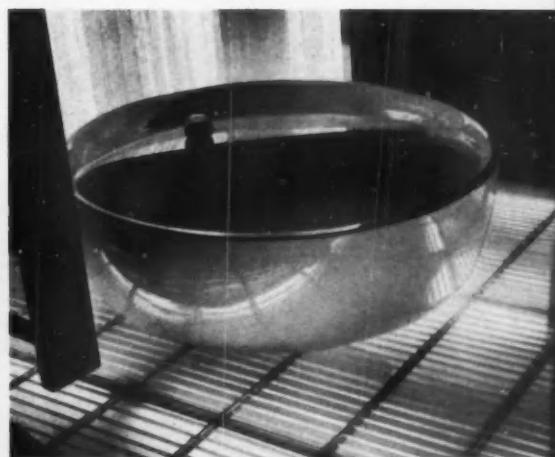
In domestic goods of all types there are few surprises. Germany, Finland and Norway, with carefully chosen displays, re-affirm their positions as masters in designs of refined austerity, though Czechoslovakia again has a number of products in porcelain and glass of remarkable delicacy. From Belgium a new selection for *Le signe d'or* awards (DESIGN June page 56) is on display showing only too clearly the difficulty, experienced in all countries with similar annual awards, of maintaining the standard set in the first year.

The search for new products and new trends in design is not without its frustrations. Repeatedly, having found a design of particular interest, one searches in vain for someone or something that will reveal who designed it, who made it, how much it costs, what it is made of and so on. The visitor who discovers early on that *Niet Aanraken* is not the name of a designer will save many entries in his notebook. It comes as a great relief, when one arrives at Britain's own selection, made by the CoID, to find each product clearly labelled with exactly the information one needs, and with leaflets and catalogues to hand if further details are needed – a feature that appears to be unique in the whole exhibition. For this reason full information on some of the products shown here cannot be given.



U.S.A. No concession to the plush and plaster work of the traditional picture palace has been made in this small cinema in the IBM pavilion. Charles Eames' match-moulded glass fibre dining chairs have been cleverly adapted by IBM's designer Peter A. Siks to form austere rows of seating supported on single horizontal metal bearers. The earphone control between each pair of seats has a push button unit enabling the spectator to select one of six languages. The earphone itself can be moved on its flexible support to any convenient position.

Belgium The circular ceramic bath *BELOW* and the wash basin *BELOW LEFT* were used in a design for an all-electric prefabricated house (also circular) shown in the Electrical Energy pavilion. To a greater or lesser extent all the pieces in the range - which includes a lavatory, bidet and shower - reveal a revolutionary approach to the design of ceramic bathroom fittings. The shapes themselves have a flowing sculptural quality which in itself is unusual. In addition cylindrical metal pedestals provide the entire supporting structure, and are not merely supplementary to wall brackets which is normally the case, so that each piece is free-standing and independent of the wall. Taps are replaced by push buttons *BELOW LEFT* which regulate the flow and temperature of the water. This equipment could be installed in the normal bathroom, but the one on show was electronically controlled. One can press a button in the bedroom to start the bath water running, and an alarm clock rings when the bath is ready. The range was designed specially for the exhibition. DESIGNERS Jules Weydts and P. Neerman. MAKER Ets J. Weydts.



new products at
BRUSSELS

Netherlands This porcelain coffee service is an example of the many products of a high standard shown in this pavilion.
DESIGNER *Edmond Bellefroid*. MAKER *NV Porselein-en Tegelfabriek Mosa*.



Netherlands This oil burning stove, shown in the Netherlands pavilion in prototype form, is scheduled for production towards the end of this year. The casing consists of two identical halves made of enamelled sheet metal. The flue outlet at the rear is attached to a metal plate which is the same size as the window in the front, as seen here, so that only one tooling process is involved. DESIGNER *D. P. G. Claessens*. MAKER *NV Haardenfabriek*.

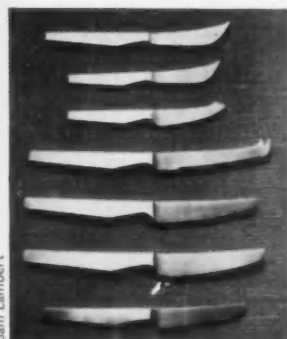


Netherlands White painted polyester sheet is used for this prototype of chair shortly to be mass produced. Self coloured polyester will be used for the production versions. The framework consists of tapered V-shaped iron members with plastics toe caps. The pivot support for the seat suggests adjustability but the chair is in fact rigid. DESIGNERS *Gerrit and Wim Rietveld*. MAKER *Gispen Fabriek voor Metaalbewerking NV*.

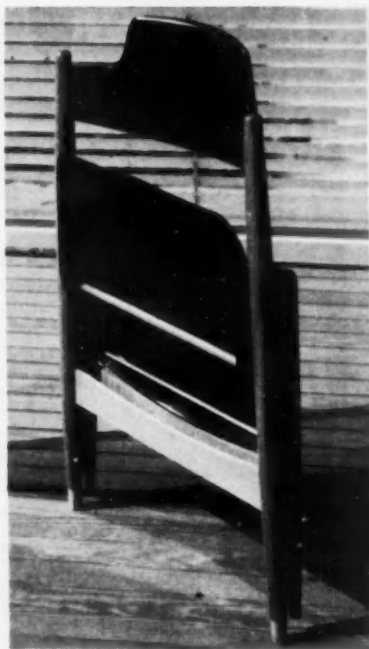
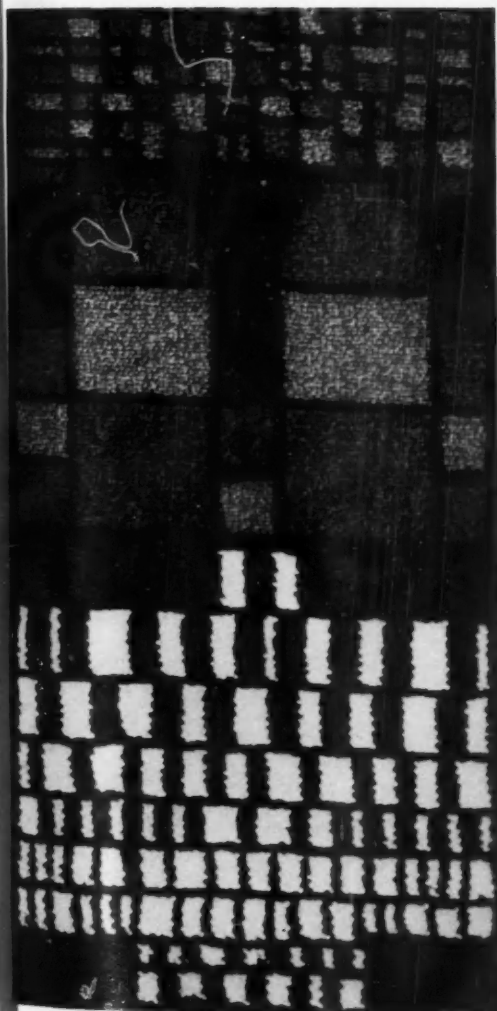
Finland The kitchen/dining exhibit is sunk in a well several feet below the floor level of the main pavilion so that spectators can gain a clear idea of the layout. Although the design provides little new to current thought on the subject, it succeeds admirably in creating an efficient but comfortable environment that is well suited to the room's dual function. The portable power pack, seen to the right of the revolving corner cupboard, is a new product of particular interest which it is hoped will be reviewed by *DESIGN* in a later issue.



Sam Lambert



Finland A new range of satin finished stainless steel cutlery. DESIGNER Bertel Gardberg. MAKER Hackman & Co.

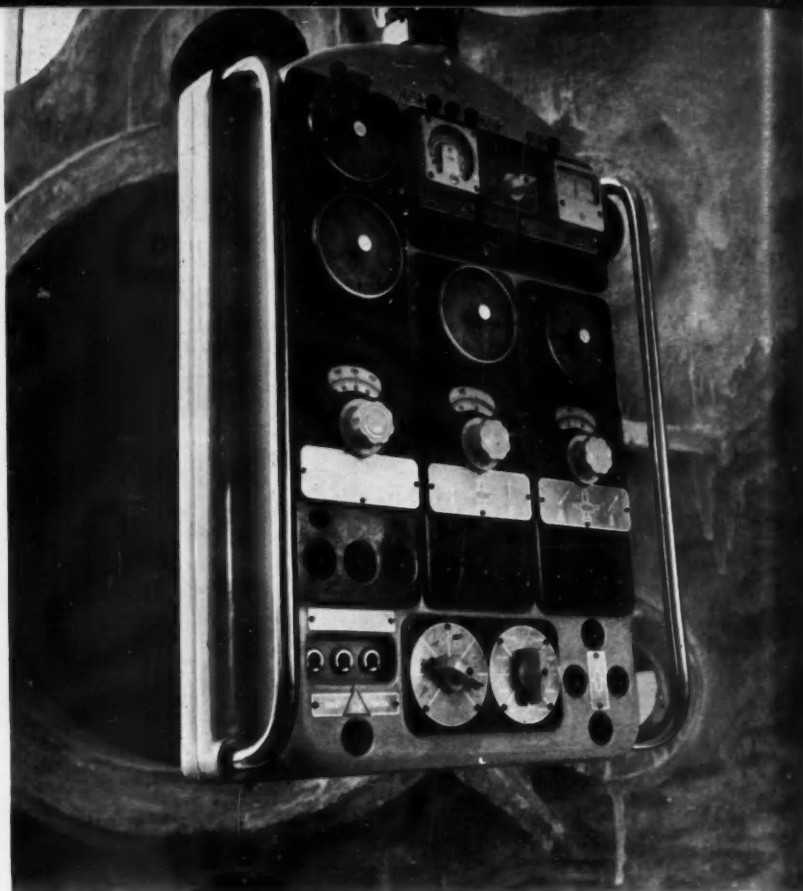


Western Germany These folding chairs show an unusual combination of moulded glass fibre, for seat and back, and wood for the framework. The chairs are in general production. DESIGNER Egon Eiermann. MAKER Wilde & Spieth.

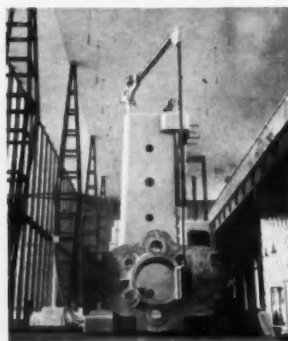
Western Germany A small section of a heavy four-frame Wilton carpet specially designed for one of the pavilions in this exhibit. The intricate geometric character of the pattern clearly reflects, but also complements, the simple architectural form of the pavilion itself. The manufacturer states that this aim was achieved through a close co-operation between the firm, the architect of the pavilion and the carpet designer. DESIGNER Professor Margret Hildebrand. MAKER Gebrüder Schoeller.

new products at
BRUSSELS

Czechoslovakia A variety of well finished and efficient machine tools can be seen in this pavilion. The control panel **RIGHT** is part of a large horizontal boring machine, **RIGHT BELOW**, designed for machining large and complex pieces with infinitely variable speeds and feeds. This control panel is suspended from the arm at the top of the machine and can be moved round to any operating position. The complete panel is broken down into a series of smaller panels of different colours to assist identification, though some of the dials could be improved in clarity. Compare with the control panel on the opposite page. **MAKER** *Skoda*.

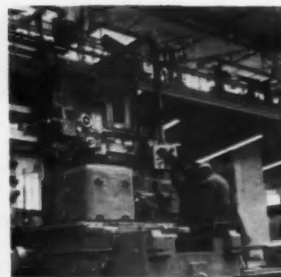
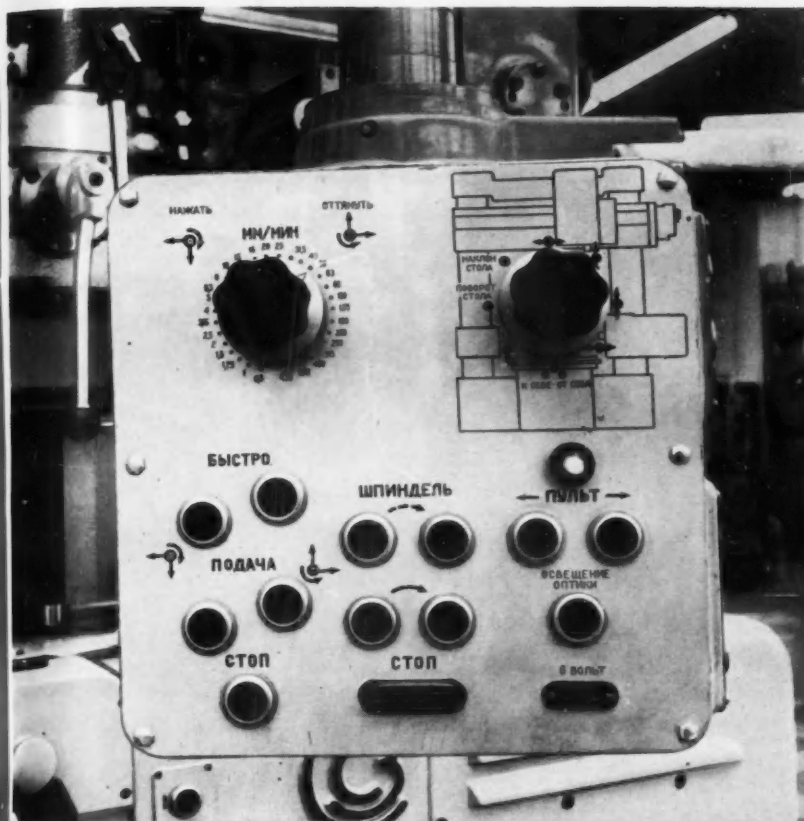


Czechoslovakia Several well chosen examples of pottery and glass are displayed by Czechoslovakia. This coffee service in white porcelain is particularly outstanding for its delicacy and subtle shaping. **DESIGNER** *Jaroslav Jezek*. **MAKER** *Karlovarsky Porcelan*.



Czechoslovakia This stereoscopic microscope for medical work shows how this country is maintaining its reputation for skill in the precision instrument field. **MAKER** *Meopta*.





USSR The control panel LEFT on this high precision milling machine functions in a similar manner to the Czech horizontal borer shown opposite, and suggests that some attention has been given to the grouping of the push buttons to eliminate the danger of making a mistake. The complete machine ABOVE is one of many in the Russian pavilion which symbolise the power and progress of Russia's heavy industries.

USSR Those products in which a national style seems to have been attempted, make use of semi-traditional motifs and are invariably crude and garish – as in these souvenirs.



USSR The idea that Russia might develop an aesthetic in her consumer goods that would be independent of the West has been severely knocked on the head by some of the examples she has displayed at Brussels. The designers of this car, and the three others also exhibited, appear to have accepted American styling without question. The wrap-round windscreen, hooded lamps, elaborate grille and front end seem to have been used in an effort to out American the Americans – except that the style they have chosen is now two years old, which is about the time it takes to put a copied design into production. **MAKER** *Tchaika*.

USSR The kitchen units in several of the flats and room settings in the Russian pavilion make it clear that in the domestic field Soviet designers are also developing ideas along essentially Western lines. The units here are sensibly arranged and not unlike Britain's wartime Utility designs. Closer examination however shows that the standard of cabinet making is still extremely low. Colours and finishes also are poor, while the design of powered equipment such as cookers and refrigerators is comparable only to British work of the mid 'thirties.

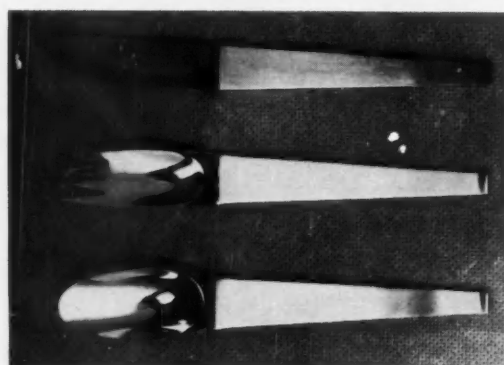


new products at
BRUSSELS

Hungary Typical of much efficient looking instrument equipment in the Hungarian pavilion is this apparatus used for measuring light impulses. Clearly, considerable thought has been given to the design of the cabinet with its subtly inclined planes and use of two colours to create an appearance of lightness. **MAKER** *Alcor*.

Austria This cutlery has a marked severity of form expressive of the hard stainless steel from which it is made, but is relieved by the contrasting polished and satin finishes. **DESIGNER** *C. Auböck*. **MAKER** *Neuzeughammer Ambosswerk*.

Austria One of the few attempts that have been made to redesign the traditional grand piano within a modern idiom can be seen in the small concert hall in this pavilion. This was a winning design in a competition organised by the Austrian Wirtschaftsförderungsinstitut, and is not in general production. Apart from the overall simplicity of form the most radical departure is the three-legged supporting structure with the foot pedals forming an integral part of the massive leg beneath the keyboard. **DESIGNER** *Norbet Schlesinger*. **MAKER** *Bösendorfer*.



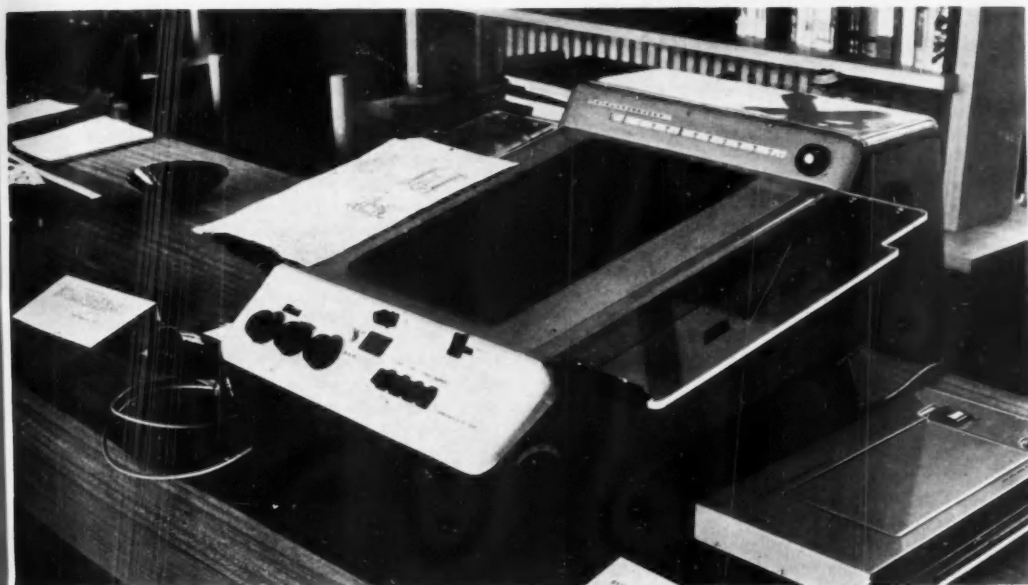
Austria This door handle, designed specially for the exhibition, is in the information office of the Austrian pavilion. It is unusually comfortable to grip by either the right or left hand and offers a fresh approach to conventional ideas on what is good ergonomic design. **DESIGNER** *Dr. Schwanzer*. **MAKER** *Karl Tiagl*.

Switzerland Used extensively throughout the Swiss pavilion, these stacking chairs with perforated aluminium seat and back, are extremely light but have a strong supporting framework of U-section members. Originally designed in 1939 for the Swiss National Exposition, they are still in production and in design are still ahead of many chairs produced nearly 20 years later.

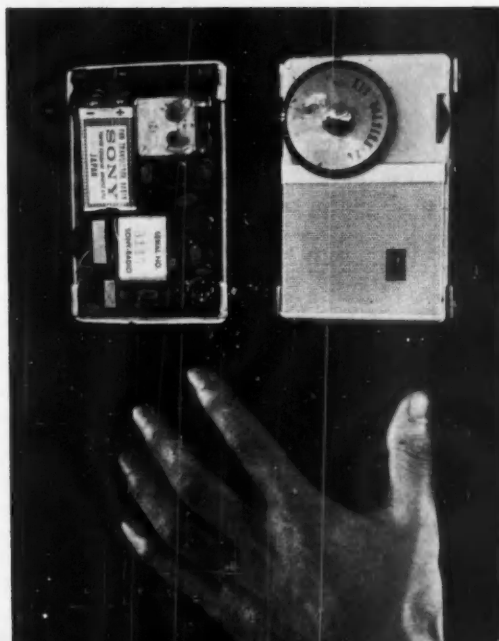
DESIGNER *Hans Coray*. MAKER *P. & W. Blattmann*.



Switzerland This mixer is a new product just coming on the market. It has a wide variety of attachments and has a pleasant uncluttered form. MAKER *Ed Aerne S.A.*



Japan This revolutionary piece of communications equipment, called a *Synchroreader*, enables the written word and the recorded voice to be combined on a single piece of paper. A message can be typed (or printed or written) on one side of the sheet (which is backed with magnetic film). The sheet is then placed on the panel at the top of the machine and the message, spoken into the microphone, is recorded on the back of the sheet. Once the message is recorded the sheet can be folded without damaging the recording and can be played back on a similar machine. The main uses would seem to be in education (the teaching of languages or of children to read), but reproduction of the recorded message is so cheap and quick that the manufacturer envisages the publication of newspapers containing recordings of correspondents' dispatches. On a brief hearing the quality of sound seemed comparable with that of a tape recorder. MAKER *Canon Camera Co Inc.*



Japan Transistorised radio, part of a display of radio and electronic equipment in the Japanese pavilion. MAKER *Sony Radio Corp.*

DESIGN PROTECTION

in the proposed European Free trade Area



overseas review

Previous articles on design protection:

Registration: legal protection for industrial designs

September 1956 pages 15-24.

Better protection for industrial designs

September 1957 pages 35-38.

WHEN THE UNITED KINGDOM becomes part of a European Free Trade Area, British manufacturers will have a real opportunity to compete freely in wider markets, but they will no longer have a well protected home market to share more or less exclusively among themselves. Attractive and suitable designs could then open up new markets for British goods in places where they are practically unknown at present, and at the same time they could help to meet intensified foreign competition in this country.

A design which gives promise of winning new customers and keeping old ones is worthy of protection in the places where the customers live. We should therefore be considering what legal protection is available in the territories within the proposed FTA and what is the best procedure for obtaining it.

Copyright protection for industrial designs

The copyright laws of many Continental countries provide a useful measure of protection for industrial designs without the need for registration, but it would be a mistake to rely entirely on such protection for all kinds of industrial designs in all the countries of the proposed FTA. The French, it is true, have a copyright law which makes no distinction between industrial designs and the works which are to be found in art galleries, but in Germany, Italy and Switzerland, the artistic character or artistic value of an industrial design has to be assessed before it is possible to decide whether that design can enjoy automatic artistic copyright protection, or can only be protected by registration as a design or model.

Some indication of the extent to which the copyright laws of individual countries of the proposed FTA provide protection for industrial designs will be given later in this article. In general, however, it can be said that industrial designs enjoy automatic copyright protection to a greater extent on the Continent than in this country, because of the wider overlap - in most of the foreign countries concerned - between this form of protection and the protection afforded by registration. Moreover, since this country is a member of the Berne Copyright Union and has ratified the Universal Copyright Convention, British individuals and companies are entitled to enjoy the benefits of the copyright laws of most Continental countries as though they were nationals of those countries.

Protection by designs registration

While copyright protection is free, protection by registration is relatively expensive. The owners of British industrial designs will therefore wish to have some means of roughly determining the value of registration in the various countries we are considering. Statistics are always suspect, but for our purpose it is perhaps helpful to compare the numbers of designs registered in FTA countries with the number registered in this country. The latest complete figures available - those for 1956 - are as follows: Federal Republic of Germany 67,433, Switzerland 24,312, France 8,695, Austria 8,139, United Kingdom 7,821, Belgium 2,554, Italy 1,513, Norway 1,200, Denmark

785, Portugal 122, Sweden 47 and Irish Republic 38.

Since it is probably true to say that the overwhelming majority of registrations in each case were affected by nationals of, or companies established in, the countries concerned, it is possible to gain from these figures some idea of what each country thinks of its own designs law. The low position of Sweden in the list is understandable because registration in that country is only available for industrial designs of metal goods, but is it not significant that Swiss registrations outnumber British registrations by more than three to one?

Hitherto it has been uncommon for the owners of British industrial designs to register them on the Continent. Now, however, that there is a prospect of new potential European markets being made accessible to manufacturers in this country, the possibilities of such registration may be of more practical interest.

Let us assume therefore that a British company, X Ltd, has a promising new design for one of its products and seriously contemplates applying for foreign registrations in a number of countries in the FTA. How should it proceed?

Registration procedure

The first step is to apply for registration in this country under the Registered Designs Act 1949. The application should be filed before there has been any public disclosure of the design, and X Ltd would do well to forget about the special provisions of the Act for safeguarding the validity of registered designs applied for after exhibiting at certified international exhibitions, or - in the case of textile designs - after securing a first confidential order. The British application will not only open the way to protection of the design in this country, but it will also automatically create a six-month convention priority right for corresponding designs applications in most foreign countries that have designs registration laws. The sole exception so far as the proposed FTA is concerned is the Irish Republic where the priority term is only four months. The acquisition of this convention priority right, which is one of the benefits to which British subjects and companies are entitled under the International Convention for the Protection of Industrial Property, will enable X Ltd to defer any final decision on the countries in which its design is to be registered until nearly six months from the filing date of the basic British application (or nearly four months from that date in the case of the Irish Republic). In the interval, the firm can safely offer and sell goods bearing the design not only in Britain, but also in the other convention countries, and the results achieved may help X Ltd to decide which foreign countries are worth the cost of registration.

Professional assistance

Much, therefore, depends on the original British designs application and, while there is nothing to prevent X Ltd from preparing and filing its application without professional assistance, it would be well advised, since its design has promise of being valuable and important, to entrust this work to an experienced patent agent.

What legal protection can be obtained for British designs in the countries of the proposed Free Trade Area? The following article, contributed by a chartered patent agent, describes the procedure and relates this to the requirements of the individual countries.

Not only will the patent agent be able to save X Ltd trouble, but he should be able to secure a better registration. For example, his draughtsmen or photographer should be able to produce 'representations' which would make the most of the design if it ever came into court.

The representations are extremely important. They must of course be accurate pictures of the design, but there is usually some scope for emphasising essential features of a design at the expense of unimportant details. X Ltd will be able to help its agent in this connection, first by drawing attention to the essential features before the representations are prepared, and later by constructive criticism of the representations when these are sent to it for approval before filing. In any action for infringement, the court will have to compare the alleged infringement with the representations as eventually registered and not with X Ltd's product. X Ltd should consider the representations with this in mind and resist the temptation to judge them like entries for a design exhibition.

X Ltd may possibly prefer to supply its patent agent with drawings or photographs to be used as the representations of the design. If so, the firm should invite its patent agent to consider whether they are really suitable for the purpose.

A statement of novelty, known as the "statement

under Rule 14", has to be filed with every British designs application and the courts have recently stressed that the wording of this statement is not unimportant. The most usual form of this statement indicates that the novelty is in the design as a whole, but in some cases only parts of the design are in fact novel and important, so that an appropriately modified statement is desirable. It is suggested therefore that X Ltd might ask to see and approve this statement before it is filed.

Later on, if the Designs Registry should cite one or more earlier designs as a result of the official novelty search, X Ltd may well be able to help its agent or counsel in arguing the case at a hearing by finding some neat turn of phrase which expresses in a nutshell the overall novelty of the design it is seeking to register. It is nearly always better to concentrate on the fundamental novelty of the design applied for, than to embark on an analytical comparison of the new design with the earlier designs cited by the Designs Registry.

These suggestions for collaboration between X Ltd and its patent agent are made on the assumption that the design is considered to be one of unusual importance. When dealing with an ordinary everyday design, X Ltd might find it uneconomic to go to these lengths and prefer to leave its patent agent to use his own judgment.

The sooner X Ltd informs its patent agent of the

foreign countries where it might wish to file foreign designs applications the better, since cases frequently arise where a patent agent can only advise his client properly after referring to his foreign associates in the countries concerned. A final decision in each case can, however, be deferred until about a month before the expiry of the six-month convention period.

In arriving at its final decision, X Ltd will have to assess as far as possible how much the design is likely to be worth in each country. Sales experience during the first few months of the convention period may be helpful, despite the difficulty of determining how far any sales may have been due to the design and how far to other factors such as price, advertising or the personal efforts of a local distributor.

X Ltd may have market research data from which it can form an idea of the saleability in various countries of the class of product to which the design is to be applied. If so, this is also something which should be considered.

Another consideration is whether the design is of a nature and style likely to appeal to Latin rather than Anglo-Saxon taste or *vice versa*. Then there is the question of the relative value of the protection available in each country as compared with others, which can be roughly assessed from the figures given earlier under the sub-title *Protection by designs registration*.

Protection available in various countries

When seeking protection in FTA countries other considerations, such as the maximum term of protection available under the designs registration law of each country and the extent of protection available automatically under the respective copyright laws, may also have to be taken into account. Some more detailed information on matters of this kind is given below country by country.

AUSTRIA

Designs can be registered for a maximum term of only three years. Applications can be filed either 'open', in which case the designs can be inspected by anyone, or 'under seal'. In the latter case, they become open to inspection at the end of the first year. Several designs can be included in one application, but extra fees are charged for each design after the twentieth. Publication in Austria or abroad before the effective date of the Austrian registration is fatal to validity.

The Austrian artistic copyright law specifically covers "works of industrial art", but the number of designs registered annually in Austria, despite the short term of protection available under the Austrian designs law, suggests that it may be unwise to rely too much on artistic copyright protection for industrial designs in Austria.

BELGIUM

In Belgium designs can be registered by the author for his lifetime and 50 years after his death or by an assignee company for 50 years from the date of creation of the design. Registered designs are kept secret, and a

number of designs can be included in one application, the fee in this case for each additional design being only one-fifth of that for the first. An application can be validly filed after publication of the design has already taken place.

The present Belgian designs registration law is likely to be replaced before very long by a new uniform designs law being prepared for Benelux countries.

Belgian-owned industrial designs enjoy full protection under the Belgian copyright law whether registered or not and regardless of whether they possess any artistic qualifications. British-owned industrial designs, however, can only be protected effectively in Belgium by registration under the designs law, in view of the following proviso which was introduced into the Belgian copyright law in 1921:

"If it is established that Belgian authors and artists enjoy a less extensive protection in a foreign country, then the nationals of that country will only benefit to the same extent from the provisions of the present law for their works published abroad".

This proviso was the determining factor in a 1954

decision of the Belgian Supreme Court in the Armeal case. In that case, an American concern, which had sued under the Belgian copyright law for infringement of a fluorescent lamp fitting design, failed because "the United States was not a party to the Berne Copyright Convention", and consequently Belgian authors and artists were at that time (1954) in an even worse position in the USA than in Britain. Now, although Britain is a party to the Berne Copyright Convention, Belgian industrial designs enjoy practically no protection there without registration and, applying the reciprocity proviso, we cannot expect to enjoy protection for our industrial designs in Belgium unless we register them with the Clerk of the Conseil de Prud'hommes as provided for by the Belgian designs registration law.

DENMARK

In Denmark industrial designs can be registered for an initial term of three years, which can be extended by payment of renewal fees to a maximum total term of 15 years. Applications can be either 'secret' or 'open', and



up to 50 designs can be included in a single application, the additional fee in the latter case being small.

"Works of art", as defined in the Danish artistic copyright law, include original artistic works which are "intended as models for industrial art or artistic handicraft, as well as the articles made therefrom, whether produced singly or in quantity."

FRANCE

The French designs registration law provides protection for a maximum term of 50 years. During the first five years of this term registrations can, if requested, be kept secret. As many as 100 designs can be included in one application. An application can be validly filed after of the design has been published.

It is perhaps worth mentioning that the French designs registration law owes its existence to a visit by Napoleon to Lyon in 1806, during which the silk manufacturers of that city complained that the existing French copyright law did not give them adequate protection for their designs.

All industrial designs are automatically protected under the French copyright law, whether or not they are also protected by registration under the designs law. There are, however, some advantages to be obtained by registering a design in France. Registration establishes a date for the design, though it is true that such a date can be established alternatively under the copyright law by means of the Soleau envelope procedure. The Soleau envelope is an envelope having two separate compartments in each of which is placed a copy of the design to be protected. The envelope is sealed and sent to the French Patent Office where it is perforated with the date of receipt, after which the two compartments are separated, one being retained by the Patent Office and the other being returned to the copyright claimant.

The date of creation can of course be proved in other ways, eg by evidence from private records, but registration under the designs law avoids the need for this. Moreover, seizure of infringing articles is usually more easily enforced in France in proceedings under the designs law than in copyright proceedings.

FEDERAL REPUBLIC OF GERMANY

Industrial designs can be registered in the Federal Republic of Germany for a maximum term of 15 years. Applications can be filed either so as to be open to inspection or under seal, but sealed applications are only kept secret for the first three years. Each application may include either a single design or any number of designs up to 50 filed together in a packet, provided that the total weight of the packet does not exceed 10kg (22 lb). When a number of designs is filed in a packet a small extra charge is made for each additional design after the tenth.

The West German copyright law defines a "work of art" so as to include products of the industrial arts, but industrial designs in order to qualify for protection under this law must show an artist's creative activity and be of such a nature as to produce an aesthetic impression. Nevertheless, there is nothing to prevent an

industrial design which satisfies these requirements from enjoying dual protection, ie protection by registration under the designs law and automatic protection under the copyright law. Thus, for example, the German Supreme Court has held a clothing pattern to be validly protected under the copyright law.

GREECE

There is no industrial designs registration law in Greece, but a bill prepared some years ago is awaiting presentation to the Greek Parliament.

The Greek copyright law contains no provisions dealing specifically with works of industrial art, but legal doctrine, influenced by French law, is that copyright protection can be claimed for such works.

ICELAND

There is no designs registration law in Iceland. Icelandic copyright law, however, forbids the copying of any work of "artistic craftsmanship" for profit.

IRISH REPUBLIC

Industrial designs are registrable in the Irish Republic for a maximum term of 15 years. The law on this subject is derived from and very similar to that in the United Kingdom.

No artistic copyright is available for unregistered industrial designs.

ITALY

Industrial designs are registrable for a maximum term of four years from application. All registrations are open to inspection. Up to 50 designs may be included in one application, if they all form a homogeneous series.

The Italian copyright law covers works of sculpture, drawing, etc, even when applied to industrial products, provided that their artistic value is distinct from the industrial character of the products with which they are associated. In practice, many good industrial designs are not considered to have a sufficiently clear "artistic imprint" to qualify for copyright protection in Italy. The fact that a design is registered in Italy does not, however, prevent it from enjoying simultaneous protection under the copyright law provided that it is sufficiently artistic.

LUXEMBOURG

There is at present no provision for designs registration in Luxembourg, but a draft new Benelux designs law is being prepared.

A "work of art reproduced by an industrial process or applied to an industrial product" is, however, protected by the copyright law of Luxembourg.

NETHERLANDS

There is at present no statutory provision for registration of industrial designs in the Netherlands, but a new Benelux designs law is being prepared.

The Dutch artistic copyright law specifically covers works of art applied to industry, but many industrial designs have been refused copyright protection by the Dutch courts on the ground that they are not of the requisite artistic standard. The standard demanded varies according to the nature of the article, so that, for

example, a higher standard is expected for jewellery designs than for those of purely utilitarian articles.

NORWAY

Industrial designs can be protected by registration in Norway for a maximum term of 15 years. Applications can be filed in sealed parcels, but these are opened for public inspection at the end of the first year.

Automatic artistic copyright protection is also available in Norway for industrial art or hand crafts.

PORTUGAL

Industrial designs can be protected by registration in Portugal for a maximum term of 10 years.

Works of industrial art are not protected under the Portuguese artistic copyright law.

SWEDEN

Sweden has an industrial designs registration law, but only the designs of metal goods can be registered under it. The maximum term of protection is five years. Applications are subjected to a novelty search and prior publication in any part of the world is fatal. A more comprehensive designs law is being prepared, but is not expected to result in legislation for some years.

The Swedish artistic copyright law covers products of artistic hand crafts and industrial design, except articles of clothing and fabrics.

SWITZERLAND

Under the Swiss designs registration law, protection is obtainable by registration for a maximum term of 15 years. Applications can be filed openly or under secret cover. In the latter case they are kept secret for the first five years only, except in the case of embroidery designs which can be kept secret for the whole 15-year term. Any number of related designs can be filed in one packet weighing not more than 10kg (22lb); the extra fees for four or more designs in one packet being on a reduced scale.

The Swiss designs registry will normally register designs which are primarily utilitarian, ie where the features of shape are dictated by the function which the article is designed to perform. The Federal court, however, has a tendency not to recognise as validly registered any design which does not have some aesthetic appeal. Thus, for example, many designs registered for watch cases have been held invalid.

An article which is the subject of a Swiss registered design can be protected simultaneously under the Swiss artistic copyright law, provided that it has the necessary artistic quality. The requirements in this respect are, however, much stricter under the copyright law than under the designs law.

TURKEY

There is no designs registration law in Turkey. Works of applied art are, however, protected by the Turkish copyright law, so far as they can be regarded as original, intellectual creations. But, there do not appear to be any reported decisions which help to show how far industrial designs enjoy copyright protection in Turkey.

Miscellany

Reducing the tube

The box-like appearance of television sets is due to the fundamental restrictions imposed on designers by the shape of the conventional cathode ray tube, the length of which is about the same as its diagonal width. In the conventional tube a stream of electrons is projected from a 'gun' in the neck of the tube on to a phosphor layer; the viewer, in fact, sees the end-on view of this beam which is constantly moving across the screen. One of the most difficult problems with ever increasing picture sizes has been to reduce the length of the tube, and yet maintain focus over the whole area.

The Americans have reduced the length of the conventional 21-inch tube to 14 $\frac{1}{2}$ inches (as compared with the shortest British tube of 20 inches). To reduce the apparent size of the unit even more, Sylvania Electric Products Inc has produced a model, 1, in which the front four inches of the tube are pushed out of the cabinet along with the mask, so that the cabinet itself is only 10 inches deep. The mask is lit by a halo of light which can be set to any of three levels, increasing the apparent size of picture. (This is not a new idea - it was used in the *Telekinema* at the *Festival of Britain* in 1951). The three speakers are arranged around the mask to give an even distribution of sound. The controls are in the top under a lid which slides back (an unfortunate feature, as the set cannot therefore be fitted flush with the wall).

A British firm, McMichael Radio Ltd, has followed this by bringing out a set, 2, in which the depth of the cabinet has been reduced to 16 $\frac{1}{2}$ inches. As in the *Sylvania*, the front of the tube is pushed out about 4 inches in this model, but part of the 20-inch tube

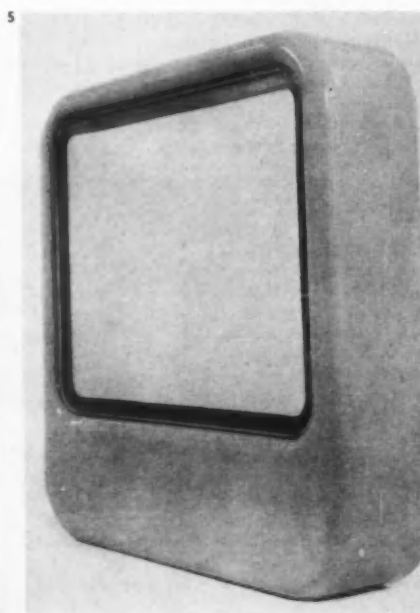
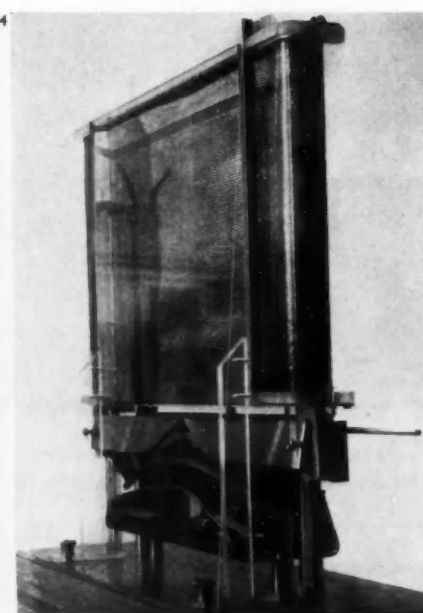
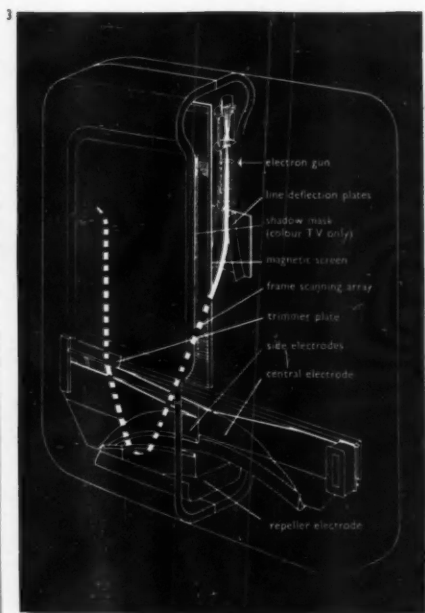
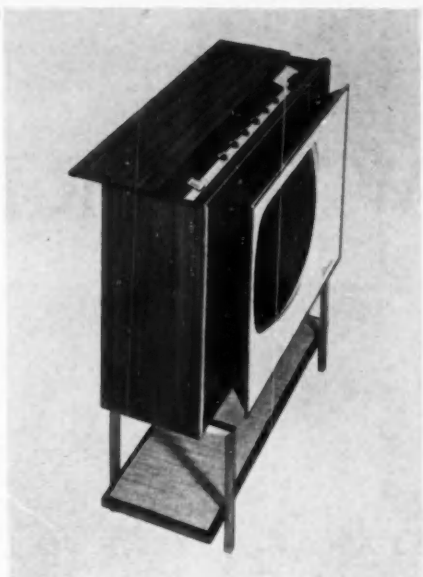
protrudes from the back of the set.

However, at the Imperial College of Science and Technology, with a grant from the National Research and Development Corporation, Dr Denis Gabor has developed an experimental 'flat' tube which may well revolutionise television cabinets of the future. Instead of travelling direct from gun to screen the electron stream is projected downwards, reversed upwards, and then redirected obliquely towards the phosphor layer on the back of the viewing face, 3, and 4 (schematic model). The gun and phosphor screen are the only conventional parts; there are no exterior magnetic fields to deflect and focus the beam; this is carried out electrostatically by circuits still to be developed.

By packing away all other components at the side and back of the *Gabor* tube, the television set of the future might well have an overall depth of five inches, with a

screen surround some three inches wide, and a space below the screen of about six inches, as indicated by the mock-up, 5. It could be conveniently hung on a wall.

The tube will be more complex to manufacture than the present black and white tube (though there would be savings on cabinet costs). However, it appears to bring considerable simplification on existing types in manufacturing methods for colour television tubes. Colour television demands three separate systems brought together with extreme accuracy on the screen surface. In the *Gabor* tube the three beams hit the screen obliquely, which allows the colour separation mask to be placed far closer to the phosphor layer, and furthermore because of this obliquity the colour 'spots' can be deposited through the mask in manufacture, saving a large number of the careful alignment operations now required. PETER E. M. SHARP



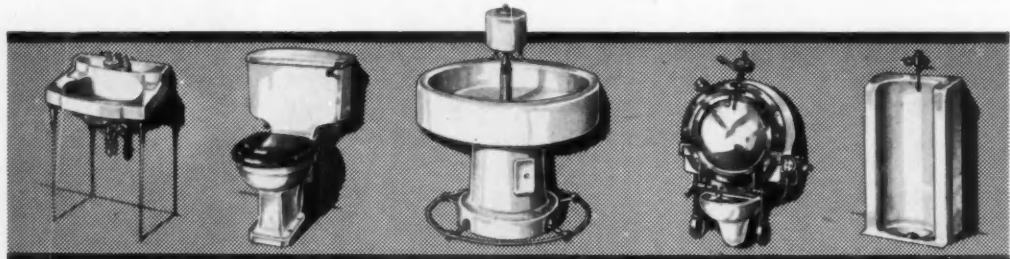
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PEOPLE

Tent us to the quick

"I am a protagonist of the Design Initiative, and I know why I'm in this room". The speaker was R. Buckminster Fuller, and the room was in the American library, in Grosvenor Square, where Mr Fuller was giving his first Press conference in this country. What is the Design Initiative? Let me put it another way. Mr Fuller also likes to be known as an "experimental prober into anticipatory-design science". No help? Well, if you don't know - and why should you, unless you have managed to translate some of the obscure articles about him that have appeared in architectural journals - Mr Fuller has spent most of his life experimenting with the design of domed structures. A lot of



R. Buckminster Fuller

his life is also spent in talking. "I call it thinking out loud", he told us, as we sat awestruck in the American library, watching a delicate mobile twitching nervously in the hot air. "A plane stays in the air," he continued, "on sheer intellectual capability..." At this point an exploratory prober from the BBC mopped his brow, and a Distinguished Architectural Critic rushed from the room.

Mr Fuller, like Charles Eames - who was over here shortly before him - has his own brand of the one-upmanship jargon that is so popular among American designers. A pity, because their handling of materials is by no means as eccentric or as difficult to understand as the layman is made to believe. And incidentally, when they are talking about other people's work they can speak quite lucidly. "Bargain basement stuff", said Mr Fuller, when he visited The Design Centre: "you're designing for today in the idiom of ten years ago." Mr Eames was equally down-to-earth. "Very creepy", he said, as he looked at one or two of the exhibits. He declined the "insult" of sitting in a chair, and hurled restrained abuse at a sideboard. "If Finn Juhl had designed that", said Mr Eames, "he would go jump in a lake". He was told that this was not claimed to be of Juhl quality, and the purpose of the Centre was explained to him. Two days later he went on the air, saying "The Design Centre is doing a great job, by making people interested in design values and raising standards generally". Very nice, but that "creepy" sticks in the mind, as does Mr Fuller's "bargain basement". Our designers cannot be too smug. Exploratory probing must go on.

KENNETH J. ROBINSON

Leading American designer's views

William Goldsmith, president of the American Society of Industrial Designers, was recently in London. "The Design Centre", he said, "is a wonderful device for acquainting manufacturers and consumers of design trends". To have such a Centre "is a sign of maturity;



William Goldsmith and his wife in The Design Centre.

we in America are not too good at public relations, but we should benefit from a working tool like The Design Centre. It would be much more tangible than conferences."

Mr Goldsmith felt that the quality of British designs had greatly improved in recent years; there was now a lightness and humour in many of the products which was once lacking.

Bicentenary medal awarded

This year the Bicentenary Medal of the Royal Society of Arts has been awarded to John Gloag. The medal, which was instituted in 1954, is awarded annually "to the person who in a manner other than as an industrial designer has exerted an exceptional influence in promoting art and design in British industry."

Mr Gloag, a director of F. C. Pritchard, Wood and Partners, the advertising agents and public relations



John Gloag

consultants, and a member of the CoID from 1949-55, is well known for his books on industrial and architectural design. These include *Industrial Art Explained*, 1934; *The Missing Technician in Industrial Production*, 1944; *The English Tradition in Design*, 1947; *Georgian Grace: A Social History of Design, 1660-1830*, 1956; and *Guide to Western Architecture*, 1958.

Mr Gloag has also been closely associated with the work of the Design and Industries Association; he was appointed a fellow of the Royal Society of Arts in 1928, and has served on the industrial Art Bursaries board of the RSA since 1948. He is also an Honorary Associate of the Royal Institute of British Architects, and an Honorary Fellow of the Society of Industrial Artists.

Designer for Poole

Carter, Stabler and Adams Ltd has recently appointed Robert Jefferson as a designer for Poole pottery. Mr Jefferson will be concerned with new decorations and

shapes for tableware, and the introduction of new techniques at Poole is also contemplated.

After leaving the Royal College of Art, Mr Jefferson was for a time in charge of the Odney Pottery at Cookham, and before taking up this appointment at Poole, was a lecturer in ceramics at The Stoke-on-Trent College of Art.

The debt to Wells Coates

Many of us owe a very great debt to Wells Coates, particularly for his influence during the early 'thirties when modern architecture was struggling to express itself. I must have met Wells almost as soon as he arrived in England in 1929. He was already working on the Cresta shops and I was immediately struck by his powerful personality and depth of knowledge. He was one of the few who provided the Modern Movement in this country with a much needed singleness of purpose and guts. At that time it had not yet escaped from a compromise with neo-Georgian respectability.

He was one of the principal founders of the MARS group (the Modern Architectural Research Group); he



Wells Coates

was elected FRIBA in 1938, and RDI in 1944.

Wells would not compromise with what he regarded as essential principles. This attitude was not always popular and he did not suffer fools gladly. This may account for the fact that he was only given the opportunity to design a few buildings. Of those he designed and which were built, I would regard the most important as being the Isokon Lawn Road Flats in Hampstead, the Sunspan House, the flats at Palace Gate, Kensington, and the Festival Film Theatre. His industrial designs for Ekco included the famous circular set of 1934, and the delightful *Radiotime*.

Wells Coates appeared to design intuitively, but his direct and uncompromising approach was based on a comprehensive understanding of the scientific and technical problems involved. His early training in the sciences proved immensely valuable to him. Many of his more daring conceptions, which to many at the time appeared exaggerated, have been justified in the long run. His catamaran, for example, shown at the *Britain can Make It* exhibition in 1946, and first sailed at Marham on the Norfolk Broads shortly afterwards, was a remarkable forerunner of the catamarans that are proving so popular today. He designed the Lawn Road Flats in 1933 and his plan is as up-to-date now as it was then. A full-sized replica of one of the flats was shown at the first *Dorland Hall* exhibition in the summer of 1933 and the building was completed in 1934. He was born in Japan and was influenced by Japanese architecture. This is clearly seen in the sliding partitions of the double flats at Lawn Road.

Wells Coates' influence was far greater than the volume of his work, and it is unfortunate for this country

continued on page 61



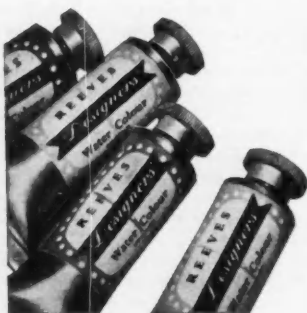
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Results of the Sanderson Centenary Competition for Wallpaper and Fabric Designs

JUDGES:

Sir Colin Anderson, Chairman
Lady Casson

Prof. Wyndham Goodden, OBE, FIAL, Hon. Des. RCA

Mr. Paul Reilly

Mr. Humphrey Spender, ARIBA

Arthur Sanderson & Sons Limited have much pleasure in announcing on behalf of the judges the results of the competition held to mark their Centenary Year, 1960.

More than 3,000 designs were submitted and individual letters of thanks have been sent to all competitors.

The following have been awarded £100 prizes in Class I, Wallpaper:

Peggy Angus, MSIA, ARCA, London
Gordon Crook, London
Dennis Limbrick, London
Maj Nilsson, Goteborg, Sweden
Alan Parkin, Kettering

The following have been awarded £100 prizes in Class II, Furnishing Fabrics:

Robert Dodd, London
Mary Harper, MSIA, London
Victor Kuell, Hayes, Kent
Alan Parkin, Kettering
Mary Yonge, MSIA, London

It is regretted that although there were many admirable wallpaper and fabric designs submitted for Class III, it was the unanimous decision of the judges that the combinations of complementary designs did not justify awards.

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NEWS

that he never had an important teaching position here. He had such a remarkable quality for bringing out the best in young people.

JACK PRITCHARD

REPORTS & CONFERENCES

The designer's environment

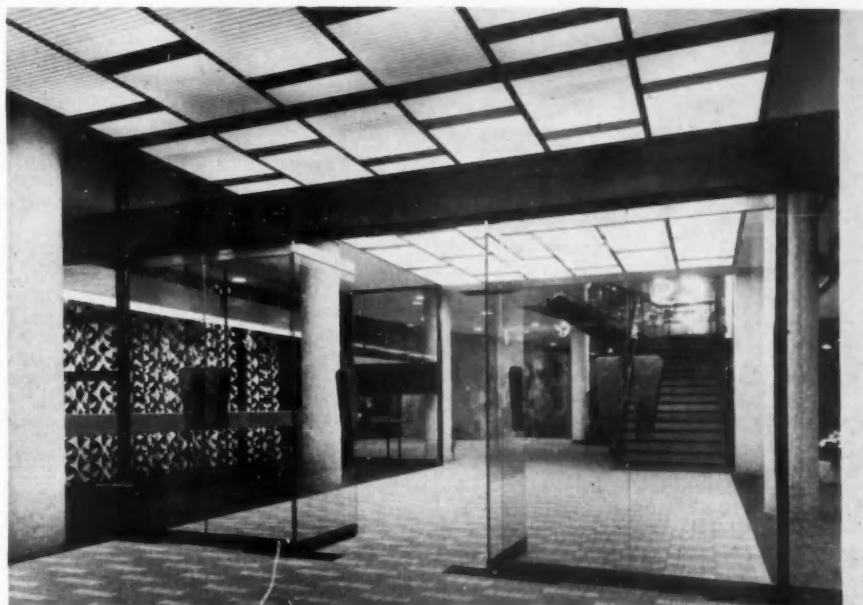
Professor Arne Korsmo of Oslo and Trondheim, the convener of a meeting of architects and educationists from many countries at Lillehammer, Norway, earlier this year, was in this country recently to see whether the conclusions of the Lillehammer Conference could be carried a stage further. The conference had been called by the Office of Cultural Relations of the Royal Norwegian Ministry of Foreign Affairs to discuss problems in the field of education for social design, which was taken to include architecture, town planning and product design. Seven countries were represented, under the chairmanship of Professor Gregor Paulsson of Uppsala University, Sweden, and those present accepted the following propositions concerning the training of architects and designers:

- 1 That the dichotomy in architectural education between design and technology does not meet the challenge of the present situation, and that the various educational disciplines should therefore be integrated.
- 2 That townplanning, landscape design, architecture, interior design and product design, being different aspects of the universal problem of environment, should be co-ordinated at the educational level.
- 3 That architectural training should constantly emphasise the architects responsibility towards society.
- 4 That in covering the many specialist techniques and disciplines required of an architect, his training must never overlook the architect's prime function, through his work, of interpreting society and of influencing the development of its structure.
- 5 That the many separate disciplines essential to an



The lighter side

A general view of the reception area of the new sales department office of Ronson Ltd. The office has been designed by W. M. de Majo, with Ostens & Fleming Ltd as contractors. The desks are standard Hille Junior desks, and the sideboard/display case, on the left, was specially designed by Mr de Majo.



A civic theatre

The Belgrade, Coventry's new civic theatre which was opened recently, was designed under the direction of Coventry's city architect and planning officer, Arthur Ling. The illustration shows the foyer, with the main

staircase leading to the circle. The theatre's symbol, a black and white dove on a circular ground has been woven into the curtains on the left. An illuminated ceiling, with panels 36 ft long and 15 ft 3 inches wide, by Luminated Ceilings Ltd, covers the entire area of the foyer and box office lobby.

architect's training should be so inter-related and directed as to contribute towards the development of a student's total architectural capacity and personality.

6 That since architecture must always be closely related to its context whether physical or cultural, methods of approach are more fundamental in architectural training than any dogma.

7 That to bridge the gap between theory and reality, institutions for architectural, town planning and product design training should be enabled to pursue active research in their particular fields of social design.

In order to implement these considerations the conference agreed on a provisional programme of further activities to include establishing closer contacts between schools, and the stimulation of further discussions to promote co-operative and co-ordinated study of integrated education for architecture, town planning and product design.

All schools of architecture and design that would be interested to concert their activities with others in Europe are invited to get in touch with architect Odvar Hedlund (who is acting as secretary to the Lillehammer group) at Boligdirektoratet, Grubbeggt 1-3, Oslo.

P.R.

East to meet West?

The Indian Institute of Art in Industry announced in the Spring volume of its magazine *Art in Industry* that it hopes to sponsor an Asian Design Conference. The aim of the conference, according to the magazine's

editorial, would be "to stress the distinctive position of designers in Asia", with their deep rooted tradition of craftsmanship. But in order to achieve some sort of balance between this traditional approach, and modern technical advances, observers will be invited from the West with "their advanced technical knowledge in problems of modern design".

Equipment for the laboratory

The object of a recent symposium at the RIBA on the design of teaching laboratories in universities and colleges was to bring together science teachers and architects to exchange ideas on the kinds of accommodation needed for teaching science subjects. The symposium was called because large sums are to be spent on university and technical college expansion in the near future, and a great deal of this expenditure will go on science laboratories and halls of residence.

Equipment for the laboratory, for which architects normally take responsibility, was discussed. J. K. Page, now lecturer in the application of science to building construction at the University of Liverpool, pointed out that the approach to equipment design was far more amateur than the approach to building. He recommended that a body such as the Nuffield Trust should be asked to carry out research into the equipment for the new laboratories.

At the moment, said Mr Page, it is the responsibility of each professor and each architect to choose laboratory furniture. While there is written information on

continued on page 63



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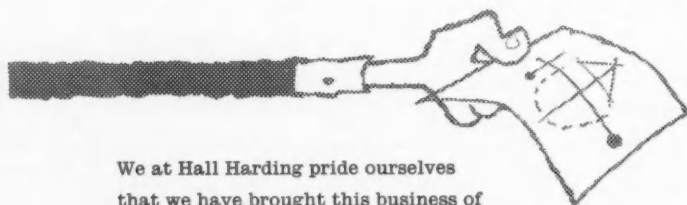
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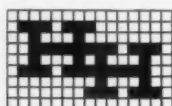


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Reginald Mount

anthropometry and ergonomics for this field, it is not readily available, and needs to be satisfactorily collected together. Point was added to Mr Page's advice by some slides showing the interior of a prototype laboratory now being tried out at the Imperial College of Science. Little attention had been paid to the prosaic subject of chairs and benches in relation to each other and their users. Those who had to sit on the stools provided might be a good deal more fatigued in the end than if they had stood throughout. BRIGID O'DONOVAN

Colour programme

A special summer programme on *Colour in Art and Science* is to be held during the last week in July at the Massachusetts Institute of Technology. The programme will be co-ordinated by Richard Filipowski, associate professor of visual design in the department of architecture at MIT; Gyorgy Kepes, Joseph Albers, Stuart Davis and Serge Chermayeff are among those taking part.

MISCELLANEOUS

Miniature record player

Camp Bird Ltd, has evolved a prototype record player of unique design, which is shortly to be brought on the market by Baird under the name of *Wondergram*.

Overall dimensions of the instrument are 8 x 4 x 1 inches. When closed, it looks like a camera. In use, the top lid swings up, and the pick-up arm swings out; the record is inserted, and the lid is lowered to act as a stabiliser for the record. Having evolved the fold-away pick-up arm, the designers have given it a pleasant shape, and then, very wisely, resisted the temptation of any further complications or styling. The result generally achieves the simple, apparently inevitable,

lines of intelligent industrial design.

The latest miniaturisation techniques had to be employed, and a number of new technical problems had to be solved. There is considerable interest in the *Wondergram*, especially in the USA. The development of this instrument will be reviewed in greater detail in a later issue of *DESIGN*, when production models become available.

Registered designs: new proposals

The Bill prepared by Alan Green to amend the Registered Designs Act 1949 (*DESIGN* June page 69) has been withdrawn, but not without achieving useful results. In reply to a question by Mr Green, the parliamentary secretary to the Board of Trade, F. J. Erroll, stated that interested trade and professional organisations were being consulted and that, if it became clear that there was a general wish for the law on designs to be reviewed, consideration would be given to the holding of an enquiry. A comprehensive review of the situation by a departmental committee would certainly seem to be the best solution of the problem.

Shut down for showrooms

H. Morris and Co Ltd, of Glasgow, has announced its intention of closing down its London and Manchester showrooms. A spokesman says that the company, one of the first to open furniture showrooms, now feels that these have outlived their usefulness and have become "a detraction from the retail floor". This change, the firm maintains, will stimulate a closer retailer/manufacturer relationship. The retailer will concentrate on selling, and the manufacturer will concentrate "on new designs, new methods, new materials and new construction". Morris of Glasgow feels that "all members of the trade in all spheres should concentrate their

thoughts on how to develop and create a second hand market in furniture on a national scale, which inevitably would increase the flow of new goods."

International furniture for Britain

Knoll furniture has at last arrived. After opening offices for the distribution of furniture and fabrics in 14 other countries, the company has now established a London showroom at 6a Bedford Square. All the well known designs are available including a complete collection of the Bertoia chairs.

Designer's editor

Herbert Spencer, the well known typographer, has been appointed editor of the *SIA Journal*. The first issue by Mr Spencer (No 65) shows some significant changes in layout, while retaining the recently adopted newspaper format.

EXHIBITIONS

Bristol fashion

Raymond Moxley, a Bristol architect, is proposing to open the *Bristol Design Exhibition*, which will be a permanent centre showing well-designed products. The exhibition has no connection with The Design Centre, but its objectives have the approval and support of the CoID.

Focus for packs

The Packaging Centre, 50 Poland St, W1, opened last month with a display arranged by the packaging section of the Society of Industrial Artists. As well as frequently featuring these special displays, the centre will maintain a permanent, but changing exhibition of packs, packaging methods, materials and equipment. An information bureau and a reference library are included in its services; conference and meeting rooms as well as a Packaging Club, are provided.

Britain in the Canadian market

The British Government stand at the *Canadian National Exhibition*, which will be held in Toronto from August 20 - September 6, has been designed by Leslie Gooday. Mr Gooday selected the exhibits in consultation with the CoID; like the *International Trade Fair* held in Vancouver recently (*DESIGN* May page 38) the display is directly aimed at the Canadian market; only those manufacturers who are already selling to Canada, or those anxious to gain a foothold in that market, have been asked to take part.

About 350 designs will be on show; exhibits are grouped under various sections - carpets, pottery, travel goods, sports equipment, etc. There are also various room settings in the 75-ft long stand.

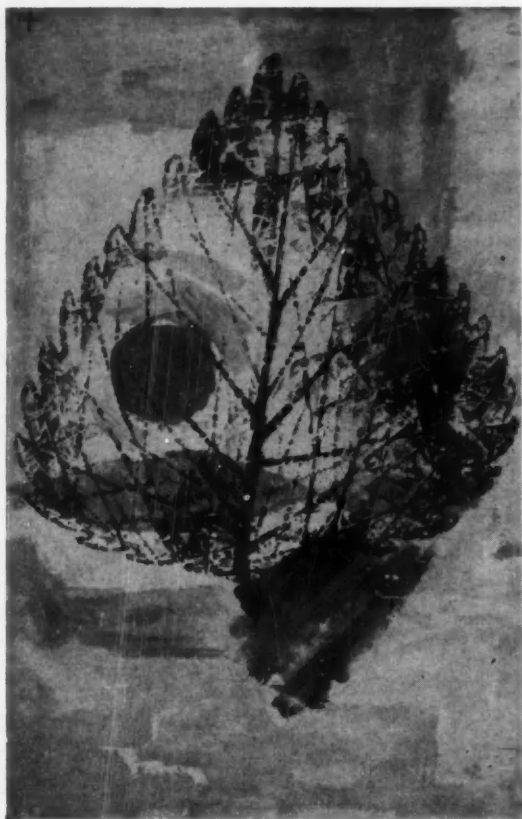
Counting the cost

In co-operation with three Belfast retailers and the Northern Ireland Housing Trust, the CoID recently furnished two show houses on two new housing estates in Belfast. The estates are intended for lower paid workers, and in furnishing the two houses the aim was to show that attractive, well designed furnishings need not be expensive. Eileen Bell, who designed the room settings for the CoID, visited families already living on the estate to make sure that her schemes would be realistic.

Both houses have seven rooms, and are intended for
continued on page 65

The Wondergram will be on the market shortly (see Miniature record player).





'Winter', a poster designed for London Transport by H. Unger. It is one of the series of full colour prints of famous London Transport posters, which includes the work of Edward Bawden, A.R.A., John Minton, E. McKnight Kauffer, and many others. The average size of the prints is 6" x 5". They can be obtained, price 1s. each (postage 3d.) from the Publicity Officer, London Transport, 55 Broadway, Westminster, S.W.1.



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NEWS

families with children. As well as providing suggestions for reasonably priced schemes, Mrs Bell has aimed to show ways in which best use could be made of the available space. All the furnishings were supplied by three Belfast retailers, Sinclair's Ltd, Gillespie & Wilson Ltd, and Meenan & Co Ltd.

House styles wanted

Under the title *The Face of the Firm* the Design and Industries Association is proposing to hold an exhibition of firms' house styles in London early next year. The aim of the exhibition is to show the contribution good house style is making to British industry.

Firms having material which they would like considered for possible inclusion should get in touch at once with Mrs Mary Harvey, 13 Suffolk Street, Haymarket, SW1, or with Alec Davis, Spearhead Services Ltd, 47 Reeves Mews, W1, who is organising the exhibition.

The DIA emphasises, however, that the exhibition will be small and selective, as the space available – at the Tea Centre, Lower Regent Street, SW1 – is limited. Because of the limitations of space, designers', printers' and advertising agents' own house styles are not eligible.

Time present

An exhibition *Pendulum to Atom* aimed at overseas buyers, is being organised by the British Clock and Watch Manufacturers' Association, and will be held in The Goldsmiths' Hall from October 14–25. The exhibition will be designed by Rapier Design Ltd.

Fuel efficiency

The 1958 Industrial Fuel Efficiency Exhibition will be held at Olympia, London, from September 24 – October 3.

COMPETITIONS

The Canterbury experiment

A brave decision by a Canterbury house furnisher – Fred Nason of Nason's (Canterbury) Ltd – may perhaps set a pattern for other provincial retailers in towns where there are schools of art. Last November he invited the principal of the Canterbury College of

The living/dining room of a young couple (see The Canterbury experiment); designed by A. J. Bingham, this is one of the four room settings shown at Nason's.



LETTERS

Art to arrange a competition to choose four students to handle the furnishing of four model rooms in his store. The students were not given the easy problem of designing rooms for their own use and taste, but the more professional exercise of rooms for imaginary clients. Beyond that they had a free hand to choose what furniture and furnishings they thought fit. Each room was introduced by a caption panel designed and produced in the graphic design department of the college.

A jubilee

The Goldsmiths', Silversmiths' and Jewellers' Art Council of London, in conjunction with the Worshipful Company of Goldsmiths, has announced details of a jubilee competition for designs in precious metals and stones. The closing date for entries is October 3; further information is available from the Hon. Secretary, Goldsmiths' Hall, Foster Lane, EC2.

Christmas poster

British European Airways is offering a first prize of £500 in a competition for a Christmas poster. The judging panel includes Marshal of the Royal Air Force Lord Douglas of Kirtleside, Abram Games and Tom Eckersley. Last date for receipt of entries is August 29; details and entry forms are available from the Advertising Manager, BEA, 103 Wigmore Street, W1. Enquiries to be marked 'Poster Competition'.

LETTERS to the Editor

The designer as executive

SIR: With reference to your article *Training product designers* (DESIGN April pages 27–45), I have often read in design literature that for proper results in industrial design the designer needs to be integrated into the management team. This presumably involves the designer having an appreciation of management, and *vice versa*. Quite a lot has been done in the last 10 years to put design over to management people. I have done a bit myself – but I am surprised that a four-year course at the Royal College of Art contains no reference to management, particularly as the course aims to produce executive material. I applaud Mr Halliwell's intention to introduce the subject if his course at the LCC Central School is extended to a fourth year, but it seems that little is being done at the moment to acquaint young designers with management problems. Is this not a serious omission, and is not the profession acting insufficiently on its own axiom?

KENNETH L. BROOKFIELD
31 Prospect Rd
Hartshhead
Liversedge
Yorkshire

'Design analysis' vindicated

SIR: In view of the comments in Oliver Hill's letter (DESIGN June page 75) on the *Design Analysis* series, may I say how informative and entertaining I have found these articles? I do not always agree with the conclusions reached by the authors, but people who conduct their lives on the principle of reading only

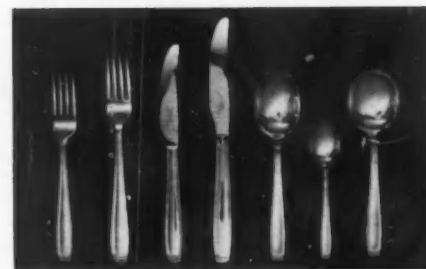
things with which they agree are overdue for burial. A minor criticism of the series is that the authors occasionally explore the perfectly obvious with intense earnestness; but this, of course, enhances their entertainment value.

JOHN GLOAG
3 The Mall
East Sheen, SW14

Quality in competition

SIR: We note with some dismay that in the article *Australia: Britain's trade prospects* (DESIGN May page 59) you have published a photograph of spoons and a fork in our new *Atlas Staybrite steel Dorian* pattern, comparing them in price to a steel range manufactured in Japan.

We would like to point out that while there is, of course, a considerable price difference in these two ranges, there is also a considerable difference in quality, not only in the raw materials and finish, but



The DORIAN range

also in the packaging and design of the British product. These facts should have been stressed in your article, as they have a substantial effect on the price, and the two ranges are in no way comparable.

In addition to this we see in the article itself that, according to your correspondent, British manufacturers are unwilling to supply these designs in satin-finish. We would like to point out that we have already supplied, not only to Australia but to several other markets in the world, this new Staybrite steel *Dorian* pattern in a satin finish, and we consider that this assertion of yours should be contradicted.

G. BAKER
Arthur Price & Co Ltd
Atlas Works
Vauxhall St
Birmingham 4

The free-lance approach

SIR: I would like to take this opportunity to offer some remarks on the delicate subject of selling. But let me hasten to confirm that these lines do not represent the wise thoughts of one who 'knows it all', and cannot possibly go wrong, but the modest observations of a free-lance textile designer who has, and continues to experience the joys and sorrows, surprises and indignations as well as complete satisfaction of selling her own collection.

Is there then an art or technique of selling that the young designer has to acquire – and what points can be raised to serve as guidance and discreet direction?

continued on page 67

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LETTERS

Do not telephone for an appointment until you have satisfied yourself that a fair amount of genuinely new work can be shown along with earlier designs you still wish to offer. Be generous with immaculate mounting paper – appearance matters a great deal. So does your own appearance, particularly that of the female designer. Keep appointments – the trustworthy, competent artist often scores over the unreliable 'genius'.

No one designer can please every client, nor indeed produce sufficient to comply with all requirements. To establish an amicable relationship with a few manufacturers is an essential basis. An individual style can thus be promoted to full advantage. Tact, patience and a lack of petty annoyance when work is criticised will help to repeat calls on the 'easy' as well as the 'difficult' customer. The professional free-lance designer depends on payment to the same extent as his salaried colleague. Clear arrangements must be made regarding the settlement of accounts.

Finally, is the art of successful selling in any way important to the artist's personality? Is it just the necessity of making a living that forces you to put your brushes down, and join the ranks of the competing 'representatives'? I believe that selling is more than that. It is the measure of your self-reliance, the important contact with the public without whose response any form of art becomes barren.

Back at the drawing board, the lights and shadows of your practical experience reflect in your designs, stimulated by a happy understanding between manufacturer and artist.

LILY WEINMAN-GODDARD
18 Kildare Gardens
W2

Ex-students of the year

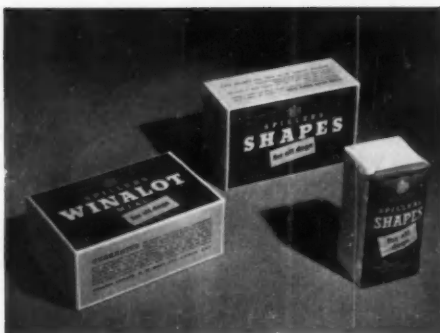
SIR: In your June issue (pages 22–33) you publicise and illustrate the 20 designs which the CoID has sponsored as *Designs of the Year* for 1958. Whether in fact design awards can in the long run have any value or authority may, as you recognise, be open to question; yet it is interesting that 35 per cent of this selection is the work of designers who have been students at the Royal College of Art during the last seven years. (Two other

Plywoods displayed

This showroom, devoted to various decorative and structural effects in plywood, is in the new headquarters of William Mallinson & Sons Ltd. This showroom is one of a group demonstrating many types of veneered panels and polished hardwoods in the firm's range.



BOOKS



Dogs' dinner

Spillers range of dog food packages have recently been redesigned by P. Pickard Jenkins of the Metal Box Co Ltd to bring them into line with modern methods of retail-

winning designers belong to an earlier generation.) This may offset to some extent the notion which is sometimes held that industry on the one hand is reluctant to make use of young and relatively inexperienced designers; or on the other that the designer who has only recently completed his training is seldom valuable to industry.

ROBIN DARWIN
Principal
Royal College of Art
South Kensington
SW7

Sitting pretty

SIR: How can Mr Bruce Archer give such fulsome praise to the new model of the *Buckingham* addressing machine (DESIGN December 1957 page 36)? The caption states that "Most people who enter employment in offices are reluctant to operate machinery". No wonder. No human girl can work comfortably at a table 33 inches high with a knee-room depth of 8½ inches. She has to sit right back or sideways, with the table top reaching half-way up her bosom, or perch on her toes from her wound-up chair. When this machine comes to be redesigned we hope Adrema will pay some attention to recent anthropometric findings. In the meantime, we suggest that your contributors should ascertain and comment on the measurements of the equipment they review.

SYDNEY FOOTT
BRIGID O'DONOVAN
60 Holland Park
W11

Heavenwards

SIR: The interesting leader *The ninth heaven* (DESIGN March page 25) describing the design work at the Arabia factory, Helsinki, throws out a challenge which requires an answer. The Craftsmen Potters Association is of recent birth, but it is a vigorous and rapidly growing infant. Our members are not only recruited from Cornwall, Chelsea and the Cotswolds. Most of them are individualists who do not want to make the same pot twice, but also include pottery workshops with



ing, particularly self-service stores and supermarkets. The old package, LEFT, which has been in use for 25 years, has only one display surface whereas the new designs indicate the contents on each surface making them effective display areas in their own right.

batch production. We would welcome many more members to participate in our exhibitions, which are as yet small, and in all our endeavours to make a wider public aware that they can admire and own pots of individual character and design, made by British potters, over 80 of whom have already joined us.

We would like to take up the challenge in the article to establish an alliance of the ideas of craftsmen and manufacturers, not only those making pottery, but also those who make the things that go in, with and around pots.

O. W. LIPTON
Craftsmen Potters Association
35 Camp Road, SW19

BOOKS

The hidden persuaders

Vance Packard, Longmans, Green & Co Ltd, 18s

Motivation research

Harry Henry, Crosby Lockwood & Son Ltd, £1 10s

Is MR a moral issue, or is it simply a new means of attempting to keep in touch with people? Two books on MR recently published in this country approach the subject from opposing standpoints, and the two contributors who review them here raise several new hares.

LAWRENCE ALLOWAY writes:

The source of most public information about MR is Vance Packard's best-selling *The hidden persuaders*. It is an unscrupulous and entertaining book with the pseudo-warning, 'leave our minds alone'. He has done his job so well that the brand-image of MR for *Observer* and *New Statesman* readers is fixed for some time to come. He taps the commonplace that psycho-analysis should be kept from the market place because of its confessional character (the admission of sins or weaknesses). The modern substitute for religion, coinciding with the traditional distrust of big business by people

continued on page 69

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As all executives know only too well, and too often ignore, hustle and bustle is not a true indication of efficiency. A correctly relaxed body encourages an orderly mind. Creative alertness is so important in these highly competitive days when so many of us in the nature of things, must "take it sitting down".

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BOOKS

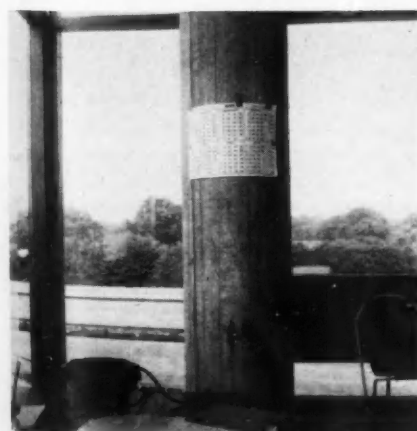
outside it, produces reflexes of horror and resistance which masquerade as vigilance and conscience. When Mr Packard describes "psychological hooks" for irrational "points of vulnerability" he accepts as real the claims of the depth boys, whether substantiated by independent research or not (such as cake-baking as symbolic pregnancy). The weakness of Packard's book is that the author must accept, if he is to alarm readers and make a scandal (which he has), the wildest claims of MR and present them all with indiscriminating intensity. For example, he writes: "the motivational analyst and symbol manipulator pooling their talents, and with millions of dollars at their disposal, make a fascinating and at times disturbing team". This sounds a lot, but is it? If you read the other book available on this subject *Motivation research* by Harry Henry, it is clear that when depth interviews – the first step in a research project – have been conducted, the results, if they are any good, will only be useful in one selling situation, not in all and not for ever. The co-ordinated programme which will make puppets of us all by 1984 is further off than Packard – who has a book to sell – wants us to think.

Measuring the common man

MR draws on psychology and sociology for its methods and it is a mistake in this context at least to think of them as both social sciences or 'humanic' knowledge. Psycho-analysis, the branch of psychology most used by symbol-happy depth boys, is a source of personal knowledge, of use mainly to individuals who have been treated; sociology, on the other hand, studies groups of 'normal' people, and, though less spectacular memorandum-wise, is more likely to be relevant to merchandising situations. Packard sticks to applications of the first type, because they make such 'fascinating' anecdotes; Henry consigns the sexy stuff, or most of it, to the reckless first phase of MR (the wild, early 50's) and characterises the present as a time of quantification (adequate samples, cross-checking of data).

Brutal treatment

A blemish on the brutal concrete in one of the offices at Gatwick terminal building – "What harm will some sticky tape do to a column that doesn't look finished anyway?" Perhaps a pin board is the answer. (See pages 19–23.)



The fact that MR is already public property is, itself, significant. It is a fad (like the communications fad which W. H. Whyte discussed in his book *Is anybody listening?* 1952), but the fact it is this fad and not another (say, Zen) is significant. The heroes and families of the mass media have acquired unconscious minds. The consumer of mass communications and other mass produced products has an unconscious mind, too, and obviously, once this was recognised it would be studied. Human engineering measures capacity, reach, fatigue; MR studies, or is looking for, the consumer's real motives. MR is part of that attempt to measure the new brand-image of the common man that is arising. The mass, once a simple lump, is now an intricate field of groups and relationships. Direct access to the public is always blocked by the specialisation of its interests, by age groups, by changing situations, all of which make MR important not as a way of taking people over but simply as a means of keeping, roughly, in touch with them.

L. BRUCE ARCHER writes:

One is inclined to forget that the art into industry movement has only recently succeeded in persuading the general public to regard aesthetic standards as having any real relevance to functional objects. The opponents of the movement, and there were many, felt that there was something slightly immoral about devoting too much care to the outward appearance of a product; that housewives might be tempted to buy not the most efficient product, but the most beautiful. The industrial design revolution owed its success to a marriage between an anti-decoration phase in the design world, with the cry of 'form-follows-function', and an anti-mechanical phase in engineering, with an emphasis on design for production convenience. With the coming of motivation research history is likely to repeat itself, but this time the 'form-follows-function' school will be in the reactionaries' camp.

The psychological approach to advertising and design was an inevitable product of our era. The first action which was provocative enough to open a battle between the old philosophies and the new was the publication of Vance Packard's *The hidden persuaders*. This book was intended to shock. The author challenges the public to awaken to the danger and amorality of playing upon subconscious desires and fears for commercial ends. He uses overstatement freely, and much of his evidence is open to question, but his aim is achieved and both motivation research and his book have become notorious.

What is less certain, however, is whether or not Mr Packard protests too much. On reading this shocking and vastly entertaining book, one cannot be sure whether the cries are the screams of the outraged virgin, as they pretend to be, or the protestations of the delighted lover, or the vituperations of the unconsorted prostitute. After all, Mr Packard has been writing on new developments in the social sciences for 15 years.

MR – a commercial necessity

The other book, *Motivation research* by Harry Henry, is a frank invitation to manufacturers and business men to make use of the new techniques, and in its pages the author expresses regret that the new field has been invaded by charlatans with a glib line in psycho-analytical jargon (particularly that jargon which is concerned with sex). *Motivation research* is not quite a text book on the subject, but it does show plainly



Brighter bottling

Part of the bottling hall of Vaux & Associated Breweries Ltd, Sunderland, which has recently been redesigned by Frank Mortimer of Industrial Design and Development.

The walls and ceilings have been treated with 'Abestolux' panels for acoustical purposes. The ceiling is white, the walls grey and the dado a darker grey. The stairs are deep claret and the floors deep red. Glass-brick windows supplement fluorescent lighting fittings.

what it is all about. It is clear that neither functional efficiency alone, nor functional efficiency embodied in an aesthetically impeccable form, represents the whole of the attraction in a particular product which arouses in the consumer a desire to possess it. It is also clear that MR can throw considerable light on the distinctions between wants and needs in particular cases.

Every manufacturer and designer who wishes still to be in business in 10 years' time will find it necessary to have this book on his shelf. Meanwhile we all have to face the moral issue upon which these two authors have taken up opposite standpoints: is it less proper to serve the consumer's human wants than it is to meet his material needs?

The world of abstract art

Edited by The American Abstract Artists, Alec Tiranti Ltd, £3 3s

One of my friends, who is a leading British abstract painter, told me once if he had to start all over again he would like to become an industrial designer. He felt that his activity would be similar to his present one, and at the same time he would feel that what he did was needed and would be used. My friend also told me that this opinion was shared by another of our outstanding protagonists of abstract art – Victor Pasmore – to whom it falls in this book to speak on abstract sculpture and painting in England. 'Si non e vero – e ben trovato.' It shows the typical malaise among the artists that their work is not sufficiently appreciated and used, which is curiously enough only countered by that of some designers who wish they could be painters and express themselves without restriction, and without being forced into the necessary compromise most jobs demand.

A symposium of abstract art from all over the world richly illustrated and commented on by most of the

continued on page 71

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BOOKS

leaders of this movement from the Americas, Europe and Japan, can well serve as a source of inspiration to everyone engaged in design, whatever the aspect.

Looking through this book – more than reading it – shows how much the most prominent and original designers and architects today owe to the work of many of the earlier abstract sculptors and painters. For example, would the 'stalagmites' in the Olivetti New York showrooms have grown quite as quickly without the work of Brancusi or Henry Moore? And how much do our display designers today owe to the early works of Alexander Calder, Naum Gabo and Barbara Hepworth, not to speak of the contribution the Tachist and Action painters have made to textile, wallpaper and carpet design. And it is hardly necessary to draw the parallel between Mondrian, Ben Nicholson and the elevations and plans of many of our contemporary buildings, especially schools.

The fact that this process of cross-fertilisation is going on all the time has the result that common denominators and trends in the visual arts are being evolved (the visual arts include all design manifestations which are indivisible from all other fine arts); which all proves that a contemporary style does exist and the book shows how, in countries far apart, artists arrive at (if they are not driven to) an abstract approach. One cannot help feeling that this development is to a large extent spontaneous as it happens simultaneously in places as far apart as Tokyo, New York, London, Paris and South America.

I do not think that the abstract approach is the only active influence on the visual arts today, but it is very much more important and potent than a large majority of people prefers to believe, when abstract paintings or sculptures cause them to react: "I can't understand it", "It doesn't mean anything to me", or "I can't make anything of it".

However, so many important and leading artists, designers and architects can make something of it, i.e. apply it and use it in the solving of their particular problems, that the source must be taken into account as something deserving of greater attention and study by all people interested in visual things.

I can think of no better work than this book which, by illustration and text, explains all that can be explained about abstract art.

This does not preclude possibly a few people going to the trouble of perusing it earnestly and coming out at the end of it protesting that they are still none the wiser. But this is, however, no reflection on its validity.

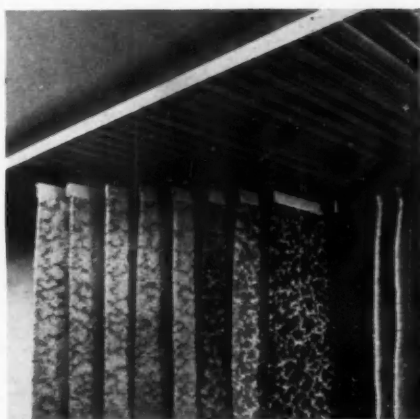
F. H. K. HENRIOT

The theory of proportion in architecture

P. H. Scholfield, Cambridge University Press, £1 10s

That the proportions of a building may give pleasure to the eye seems to have been accepted from early times, but that there should be a mathematical theory of proportions, or even that there should be any intelligible theory at all, has since the Renaissance been a matter for lively controversy.

Architectural theory has been particularly vulnerable to incursions from philosophy, aesthetics and psychology. To present the subject adequately, a historical approach is unavoidable, and this rather formidable task Mr Scholfield has accomplished with distinction. We may feel that the author attaches too little importance to the evidence of archeology. Perrault's measurements of the Corinthian order



Carpets on display

Clive Hunt of Heal's Contracts Ltd has designed a new showroom in Thrupp Street, Cheapside, for Blackwood, Morton & Son Ltd, which manufactures BMK carpets. One of the features of the new showroom is this rack, designed to show carpet samples.

(reproduced as an engraving) certainly do not form a harmonic scale, but neither do they exhibit the Fibonacci series. The author's explanation is that no shape is particularly pleasing in itself. "The object of architectural proportion is the creation of visible order by the repetition of similar shapes." If the Corinthian column cannot be shown to repeat in itself certain more simple shapes, it must be regarded as a visual entity which only pleases by repetition. This is a very cold-blooded creed. It emerges not as a deduction from experimental facts, but as a reasonable guess, a least common denominator of all previous theories. It is probably true, but it is improbable that it is the whole truth. Geometrically, the theory means no more than that the corresponding diagonals of the various shapes into which the whole is divided shall be either parallel or normal to each other.

The author firmly repels three dangerous intruders into architectural theory, and earns our gratitude. We are no longer asked to believe that our pleasure in proportions derives either from our appreciation of their strength or of their utility or from our subconscious knowledge of the proportions of the human body. But Mr Scholfield underestimates the contribution of experimental psychology. Certain visual sensations, including the perception of length, are quantitative, and obey Weber's law. The relation between sensation and excitation is logarithmic. From this experimental fact the Golden Section can be deduced directly. Further research into the mechanism of visual perception may rewrite the theory of proportion.

The final chapters are rather over-burdened with the arithmetic of the ϕ and θ ratios. The treatment is elegant and clear, but one is scarcely convinced that so much elaboration is necessary. To the general reader it may convey a sense of the poverty of modern architecture. Throughout the book Mr Scholfield has limited himself to problems of straight lines and rectangles "as problems of this kind are those with which

the modern architect is most often concerned". The miracles of geometry, once the pride and secret of the master mason, are now forgotten. "Today the architect is very much more at home with a scale than with any other instrument." One cannot share the author's satisfaction, but his book is timely and very informative, written with considerable grace of style, and beautifully printed. More illustrations, and more measurements, would be of value in a future edition.

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